

Pardon the Interruption Meeting April 2008





John F. Kennedy Space Center

MSL Project Summary

LAUNCH SERVICES PROGRAM

Mission	MSL
Launch Date	2009/09/15
Launch Vehicle	Atlas V
Launch Period Window	TBR/Time/Instant./dual daily
PPF	PHSF

OVERALL MISSION

Feb	Mar	Apr
R	R	R

MISSION MANAGEMENT

Observatory Status
Manifest/Range
Integrated Schedule
ICD
CDRLs (S/C & LSC)

Feb	Mar	Apr
R	Y	G
G	G	G
G	G	G
G	G	G
G	Y	Y

LAUNCH SITE

LSSP
Customer Inputs
PPF
Launch Site Unique
Spacecraft OPS

Feb	Mar	Apr
Y	G	0
G	G	G
Y	G	G
G	G	G
0	0	0

SAFETY & MISSION ASSURANCE

Mission Assurance
Safety
Quality
Reliability

Feb	Mar	Apr
Y	Y	0
G	G	0
Y	Y	0
G	G	0

ENGINEERING

Launch Vehicle
Mission Specific
Certification
Mission Analysis
ERS/ERB
Launch PAD/GSE
Mission Unique IV&V

R	R	R
Y	Y	Y
G	G	G
Y	Y	Y
Y	Y	Y
Y	R	R
N/A	N/A	N/A

COMM & TELEMETRY

Communications
Telemetry

G	G	G
0	0	0

BUSINESS

Budget
Contracts

G	G	G
G	G	G

DOWNRANGE TELEMETRY

Ground Stations
Deployables
P-3/OTTR

0	0	0
0	0	0
0	0	0

NUCLEAR

Launch Approval
LV Data Books
Security
Radiation Safety
Facility

G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

LEGEND

Proceeding on Plan
Area of Concern
Significant Problem
Not Evaluated
Not Applicable

G
Y
R
0
N/A

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MSL - Open/Accepted Risks

LAUNCH SERVICES PROGRAM

		Condition
RYG Trend	RiskID	Consequence
G	M0244	MSL mass growth has significantly decreased launch vehicle performance margins which are used to provide MSL with launch opportunity days and finite launch windows.
		Increased probability of degraded daily launch window and launch period durations for the MSL 2009 launch opportunity.
Y	M0269	Lower Environmental Control System mission unique design has 50% margins at PDR timeframe.
		Inability to provide cooling for the MMRTG would delay mission.
G	M0266	MSL spacecraft GN2 and battery cooling requirements remain undefined.
		LV engineering products and implementation may not meet milestones, or costs may be very high.
G	M0271	Firm critical ECS power supply fault tolerance requirements are not defined.
		Range Safety may require extensive GSE modifications which would delay MSL mission.
G	M0270	MSL target specification delivery may be late.
		Atlas trajectory design may be delayed.

P
R
C
B

C
F

C
C
C
U
R
R
E
N
C
E

5
91-100%
4
51-90%
3
11-50%
2
6-10%
1
1-5%



1 2 3 4 5

IMPACT

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MSL - Actions / Issues / Concerns

LAUNCH SERVICES PROGRAM

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/Problem	Open Date	Due Date
Engineering	G	Additional requirements not captured in LSTO are resulting in unplanned task order. Items include: spacecraft 28v power, additional lightning suppression assembly requirements that are out of scope of original proposal.	WI	3/1/07	
Engineering	G	RP Tank Long Term Redesign	ERS-06-305	7/01/07	4/1/08
Business	G	ULA has begun to request extensions to the normal 30 day turnaround time for proposals on almost every Statement Of Work, with varying rationale. It appears that this is becoming the norm rather than a trend. The extensions may begin to affect schedule if they continue (GN2 SOW).	WI	11/30/2007	01/31/2008
Overall Mission	G	MSL battery capacity and time from launch to eclipse exit may impact launch window and the ability to recycle	WI	02/15/2008	

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MSL - Significant Events

LAUNCH SERVICES PROGRAM

Accomplished	
MSL MUCDR for Trailblazer mission uniques completed successfully March 12-13, 2008.	03/12/2008-03/13/2008
Telecon to discuss JPL waiver to perform random vibe completed on April 14, 2008.	04/14/2008-04/14/2008

Planned	
Spacecraft mass is currently at 4071 kg per Project documentation in March 2008. Working with Project to define maximum mass threshold.	09/15/2006-03/31/2008
A MUPDR reconvene is required due to inadequate requirements definition in several areas at MUPDR. MUPDR reconvene will occur in June 2007.	09/13/2007-06/30/2008
Initial target specification document delivered to ULA for CPWSR #2. An update is required due to late changes in the entry velocity at Mars. This will result in a subsequent delay in receipt of the final results.	02/01/2008-04/30/2008
Spacecraft break-up data inputs continue to be delayed. Final received and transmitted to ULA on 3/25/08.	01/01/2008-03/31/2008
MSL SIR Part 2 will be held at JPL April 22-24, 2008.	04/22/2008-04/24/2008
MSL Trailblazer Readiness Review to be held April 16th. Trailblazer activities will continue through May 29. Current MMRTG rehearsal planned for May 7-8.	05/30/2008-05/30/2008
MSL verification matrix TIM to be held June 3 in Denver in preparation for ICD being available for signature on June 30.	06/30/2008-06/30/2008

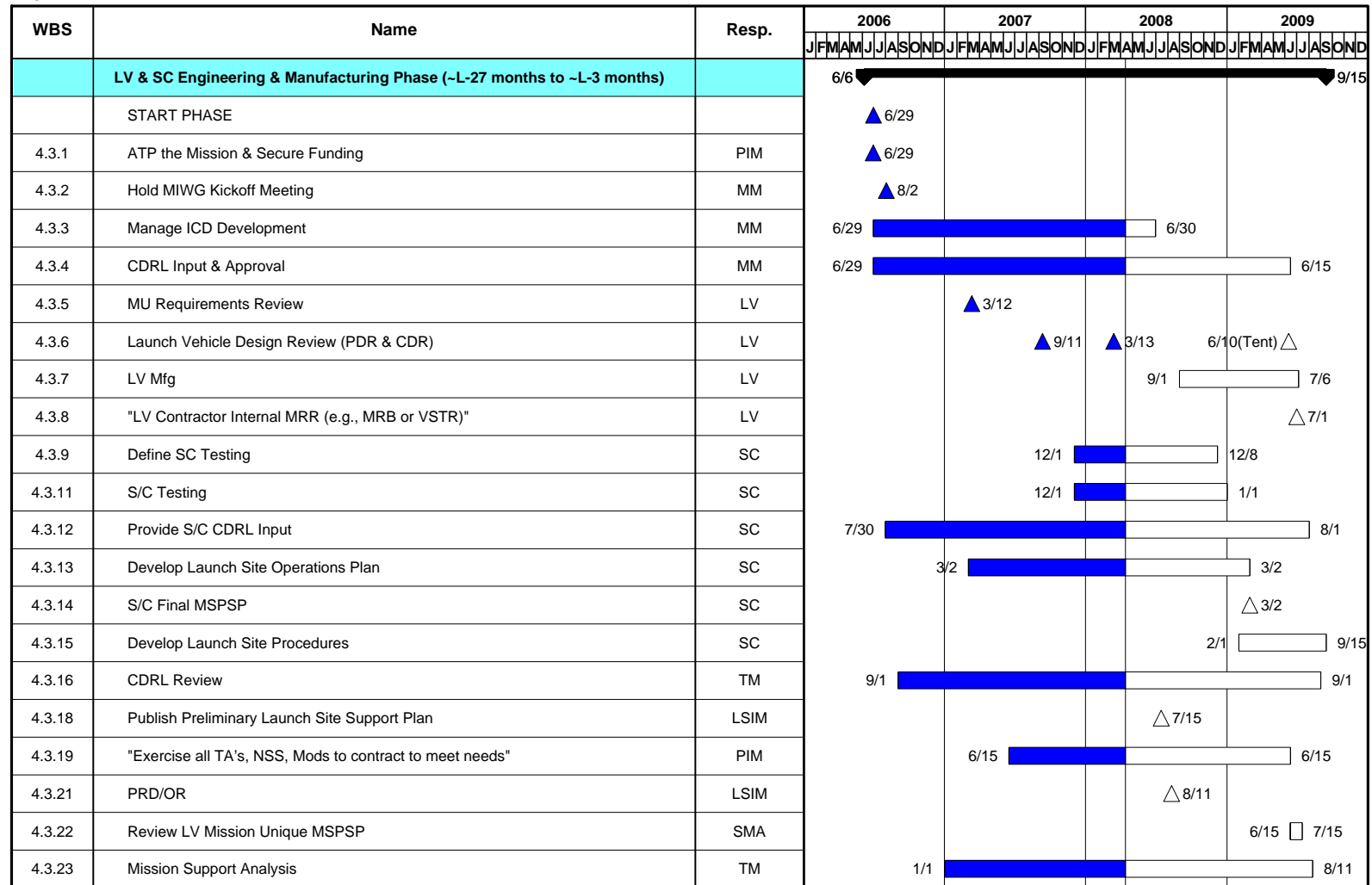
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MSL BOSS Schedule

LSP-F-330.02 Basic

Page 1 of 2

4/11/08



TM = Technical Management

LSIM = Launch Site Integration Manager

PIM = Program Integration Manager

HQ = NASA HQ & Mission Directorate

LSTO = LSTO (Mini Source Board)

SC = Spacecraft Project

LD = Launch Director

LV = Launch Vehicle Contractor

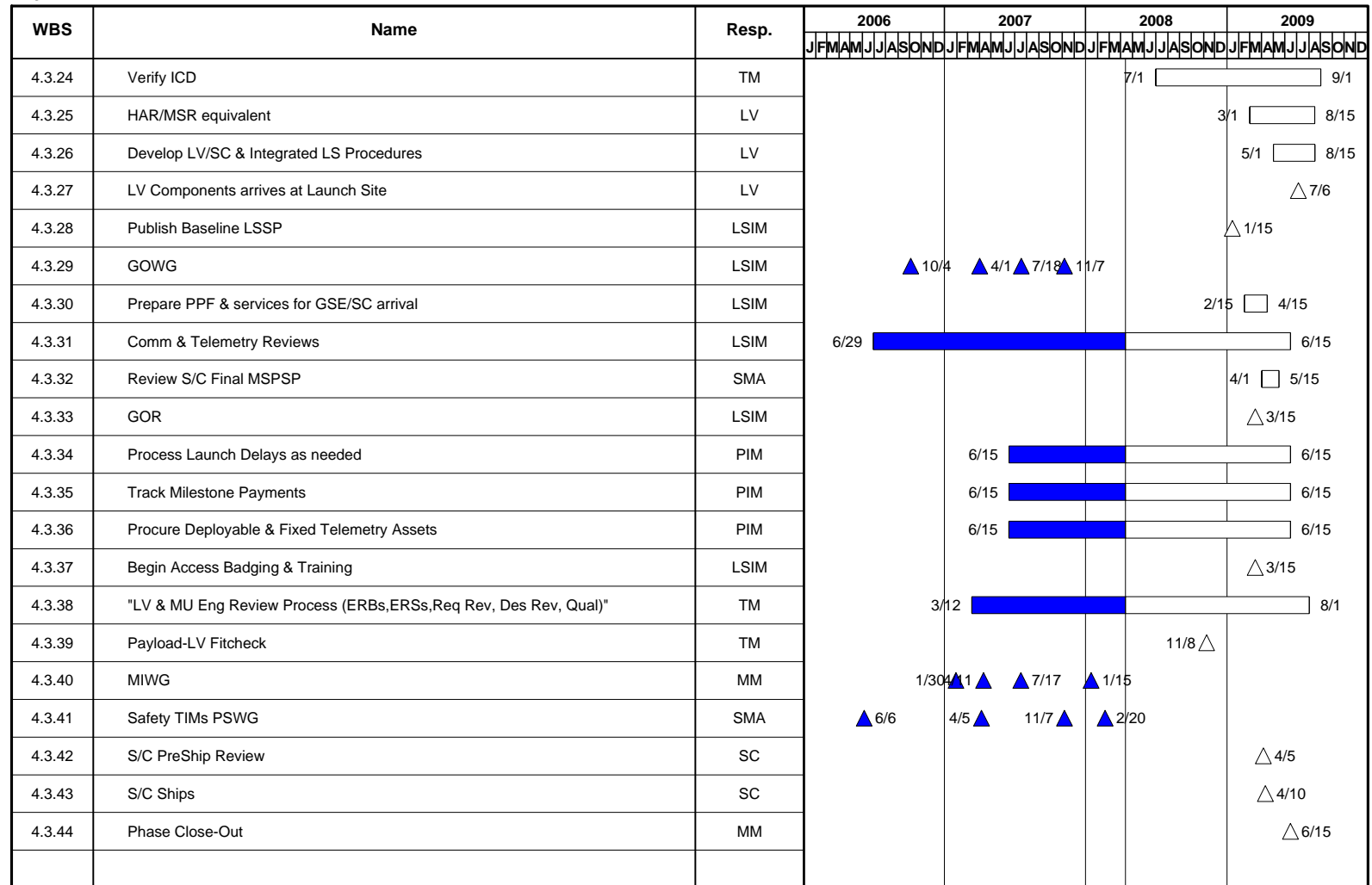
SMA = Safety & Mission Assurance

LSP = LSP Mgmt

MM = Mission Manager

LSP-F-330.02 Basic

4/11/08



LSP = LSP Mgmt
MM = Mission Manager



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MSL Mission Management

Tammy Harrington

LAUNCH SERVICES PROGRAM

Mission

Launch Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD



ICD

There are no signed SCNs

MSL
2009/09/15
C3: 23-11 (max/min) km/sec^2
Atlas V
TBR/Time/Instant./dual daily
PHSF
4000kg
SLC 41

Feb Mar Apr

G	G	G
---	---	---

There are no SCNs in Review

Observatory Status

Observatory Status

Schedule

Budget

Deliverables

Testing

ATLO

Instrument

Feb Mar Apr

R	Y	G
R	Y	G
G	G	G
R	Y	G
0	0	0
0	0	0
0	0	0

Launch Vehicle Status

Integrated Schedule

CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables

P-3/OTTR

G	G	G
G	Y	Y
G	G	G
0	0	0
0	0	0
0	0	0

Mission Center:

Program:

PM

LVI

MM

IE

LSIM

PIM

MAM

MCE

MTE

JPL

Mars

Richard Cooke

Dave Woerner/Jim Colvin

Tammy Harrington

Jim Behling

John Hueckel

Harold Coleman

Laura McDaniel

Marty Loughheed

Rolando Nieves

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MSL - Engineering

Jim Behling

LAUNCH SERVICES PROGRAM

Launch Vehicle

Payload Fairing

First Stage

Second Stage

Third Stage

Payload Attach Fitting

Other

Mission Specific

Certification

Mission Analysis

ERS/ERB

Launch PAD/GSE

Mission Unique IV&V

Feb	Mar	Apr
R	R	R
G	G	G
G	G	G
G	G	G
N/A	N/A	N/A
G	G	G
N/A	N/A	N/A
Y	Y	Y
G	G	G
Y	Y	Y
Y	Y	Y
Y	R	R
N/A	N/A	N/A

REQUIREMENT VERIFICATION STATUS

NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)

Lower PLF ECS
Access Platforms
VIF Level 5 Structural Support
Clean Enclosures
GN2 Purge Upgrades
Aeroshell ECS

MISSION UNIQUE STUDIES (IF APPLICABLE)

There are none.

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MSL - Mission ERB Status

Jim Behling

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
G	05-354	MSL IRD Review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G	06-370	MSL Mission Unique Requirements Review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	06-371	MSL Mission Peculiar Design Review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Y	06-372	MSL Mission Unique PDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	06-373	MSL Mission Unique CDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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MSL - Vehicle ERB Status

Jim Behling

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
0	06-305	RP Tank Long Term Redesign	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	ERS-07-265	First Flight of Basotect/MA100 foam FAP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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MSL - Launch Site

John Hueckel

LAUNCH SERVICES PROGRAM

	Feb	Mar	Apr
LSSP	Y	G	0

LSSP	Planned	Released
Preliminary	09/15/2008	N/A
Baseline	03/16/2009	03/14/2008

	Feb	Mar	Apr
CUSTOMER INPUTS	G	G	G

	Feb	Mar	Apr
DELIVERABLES			
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Feb	Mar	Apr
LAUNCH SITE UNIQUE	G	G	G
Planetary Protection Verification laboratory	G	G	G

	Feb	Mar	Apr
PPF	Y	G	G
Trailer for Spin operations	G	G	G

	Feb	Mar	Apr
Spacecraft OPS	0	0	0

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MSL Budget Breakdown

Harold Coleman

LAUNCH SERVICES PROGRAM

The launch service budget includes:

* **Launch Services**

- Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.

* **Mission Uniques**

- Requirements necessary to customize basic vehicle hardware to meet unique s/c driven requirements.
- Other services directly attributable to the mission.
- Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.

* **Integrated Services**

- LSP contractor support service (ELVIS, CAPPs, JBOSC, KICs, etc).
- USAF range costs attributable to the mission
- Limited flexibility

* **Payload Processing Facility**

- Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
- Commercial facility: all other missions have been directed to process in a commercial facility;
- Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.

* **Telemetry**

- Assets required to meet minimum launch vehicle telemetry requirements.
- Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
- Limited flexibility requirements are often set late in the integration cycle.

* **Fly Out**

- Costs that each mission in the 19-Pack must incur.
- Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
- Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
- Pad Sustainability costs for SLC-2 and SLC-17.
- No flexibility-contract costs

* **Nuclear**

- RTG/RHU processing
- RTG/RHU databooks and approval
- Limited flexibility

* **Reimbursable**

- Reimbursable FC for transportation, labor, and CMO.

* **Mission Flexibility**

- Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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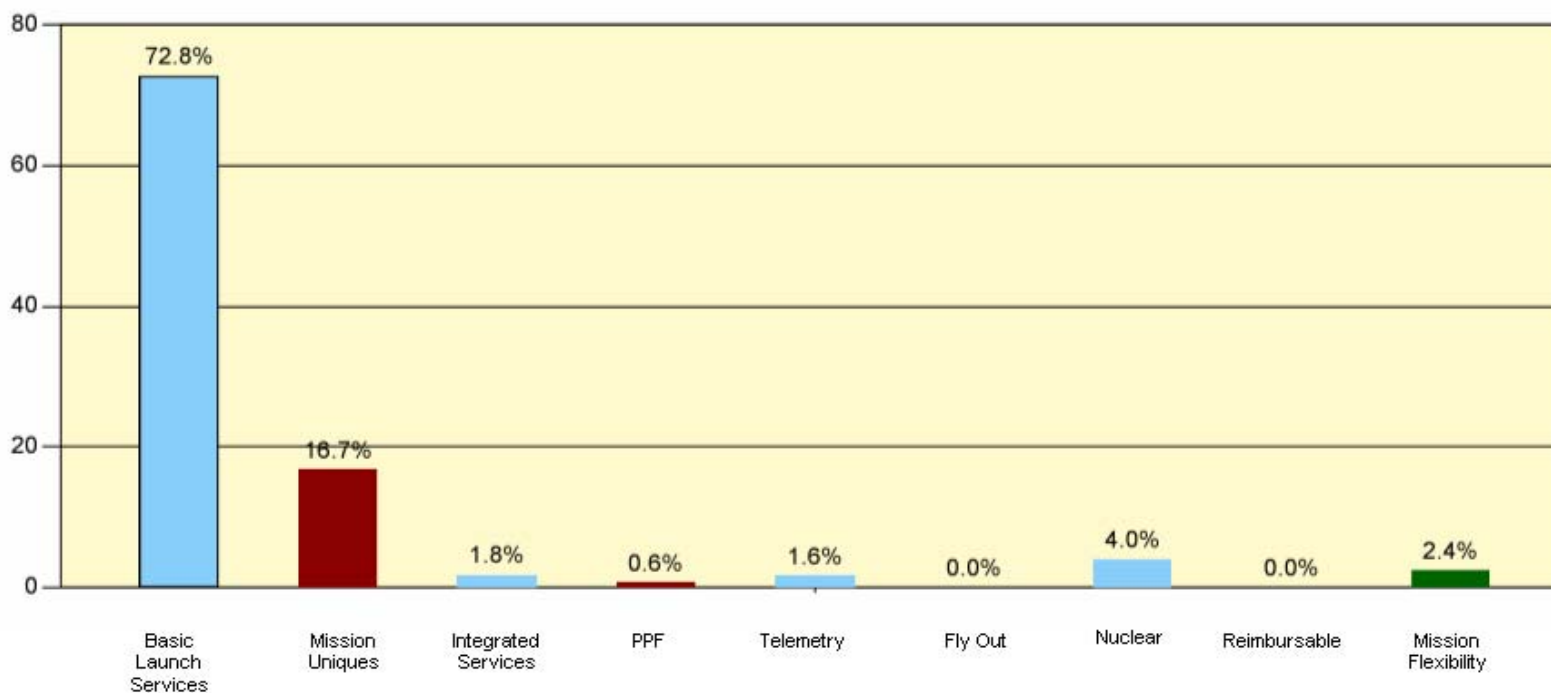
Launch Services Budget Breakdown

MSL Mission

Harold Coleman

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 4 / 2008



- No flexibility; cost are fixed
- Limited Flexibility depending on spacecraft requirements
- Flexible portion of budget

Notes:

Variance: Budget requirements have been refined, and upward/downward adjustments to several Mission Uniques liens resulted in slight decrease in Mission Flexibility, from 2.5% to 2.4%.

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MSL - Business

Harold Coleman

LAUNCH SERVICES PROGRAM

Budget

Contracts

Feb	Mar	Apr
G	G	G
G	G	G

Milestone	Date
Milestone 1	06/30/06
Milestone 2	09/20/06
Milestone 3	04/02/07
Milestone 4	07/24/2007
Milestone 5	10/11/2007
Milestone 6	01/16/08
Milestone 7	02/19/08
Milestone 8	10/01/2008
Milestone 9	11/15/2008
Milestone 10	02/15/09
Milestone 11	05/01/09
Milestone 12	09/15/09

<input type="checkbox"/>	Open Milestone Payment
<input type="checkbox"/>	Paid Milestone

Contract Status

Launch Services		
Contract Mod	Number	Description
	NLSL-083	ATP Mission
	NLSL-091	S/C Mass & Backup Launch opportunity revisions, ATP of Mission Unique Services: 3- Interleaved Telemetry, 11- Mission Unique Flight Design and Analyses, 12 - External Access Platforms, 13 - VIF Level 5 Structural Support & Platform configuration, 14 - CI
	NLSL-094	ATP of Mission Unique Services 8.0 - Diode Assemblies & 9.0 - Enhanced PLA Cleaning & UV Inspection
	NLSL-098	3% Volume Buy Discount Application
	NLSL-120	Payment schedule and adjust the milestone completion criteria for the MSL Mission CLIN 7.

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There are no LD Contract Mods				
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-199	Pre-ATP Trajectory	Cancelled	
	NLSL-053	Pre-ATP Trajectory	4/1/06	4/24/06
	NLSL-054	AV NEPA & Launch Approval SAR Databook support	12/22/2006	1/18/07
	NLSL-060	MUS 11 Pre-Authorization	12/31/2006	2/12/07
	NLSL-073	Separation Pointing Accuracy Evaluation	5/30/07	6/28/07
	NLSL-074	PDLC Interface Data Output Requests	4/30/07	05/16/2007
	NLSL-079	Early Integrated Thermal Analysis	10/31/2007	11/26/2007
	NLSL-080	28 Volt Power	07/30/2008	
	NLSL-081	Final Design Load Cycle (FDLC) Interface Data Output Requests	11/30/2007	12/03/2007
	NLSL-083	PECS As Backup to VIF ECS Feasibility Assessment	12/15/2007	02/15/2008
	NLSL-086	LC41 Environmental Control System (ECS) GN2 System Redundancy Addition Feasibility Assessment	02/15/2008	03/17/2008
	NLSL-090	5M PLF Planetary Protection Materials and Processing Assessment for the MSL Mission	05/30/2008	
	NLSL-091	GN2 Instrument Purge and Battery Cooling Service Study for the MSL Mission.	04/21/2008	
	NLSL-092	Additional Lightning Suppression Assembly (LSA) and LSA Jumpers	09/30/2008	
	NLSL-093	5m PLF Fairing Acoustic Protection (FAP) Vibration Test Bioassay Sampling Proposal Preparation	02/21/2008	03/06/2008
	NLSL-097	Modifications to +X Payload Fairing Door Mock-Up.	05/30/2008	
There are no PPF Contract Mods				
There are no Other Contract Mods				
	Issues			
0	This mission is designated as planetary and is subject to equitable adjustment, therefore grace days do not apply.			

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MSL - Safety and Mission Assurance

Laura McDaniel

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status		Evidence of Completion			
	Complete	In Work		Feb	Mar	Apr
Quality				Y	Y	0
Software / Hardware Problems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Monitoring RP tank redesign/qual and AV-09 FIV anomaly investigation.	Y	Y	0
Alerts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	0
Audits/Inspections/Surveillances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues or concerns	G	G	0
Limited Life Items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	0
Reliability				G	G	0
FMEA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues.	G	G	0
Reliability Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues.	G	G	0
Safety				G	G	0
Requirements Definitions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Tailoring in work.	G	G	0
Range Safety & Mission Flight Rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues.	G	G	0
Licenses/Use Authorizations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues.	G	G	0
Safety Documentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Phase II S/C MSPSP - comments provided	G	G	0
Non-compliances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Reviewing for possible propulsion system variances	G	G	0
Contingency Planning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues.	G	G	0
Mission Assurance				Y	Y	0
Lessons Learned	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues.	G	G	0
First Flight/Mission Unique items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Multiple mission unique items needing review.	G	G	0
Test/Qualification/Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues	G	G	0
Mission Assurance Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AV-09 FIV anomaly investigation.	Y	Y	0
Risk Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No significant issues.	G	G	0

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MSL Comm & Telemetry

Marty Loughheed and Rolando Nieves

LAUNCH SERVICES PROGRAM

Communications

Voice Comm
Data Comm
Networks
Video Comm
Timing
RF Comm
LSSP Comm Annex

Feb	Mar	Apr
G	G	G
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Telemetry

Decommuration Tables
Data Integrity Test
Software Lockdown
Software Inventory
Console Configuration
Console Checkout

Feb	Mar	Apr
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

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MSL Nuclear

John Giles

LAUNCH SERVICES PROGRAM

	Feb	Mar	Apr
Launch Approval	G	G	G
LV Data Books	G	G	G
Security	G	G	G
Radiation Safety	G	G	G
Facility	G	G	G

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OSTM Project Summary

LAUNCH SERVICES PROGRAM

Mission	OSTM
Launch Date	2008/06/15
Launch Vehicle	Delta II
Launch Period Window	
PPF	Commercial PPF

OVERALL MISSION

Feb	Mar	Apr
Y	G	0

MISSION MANAGEMENT

	Feb	Mar	Apr
Observatory Status	G	G	0
Manifest/Range	G	G	0
Integrated Schedule	G	G	0
ICD	G	G	0
CDRLs (S/C & LSC)	G	G	0

LAUNCH SITE

	Feb	Mar	Apr
LSSP	G	G	0
Customer Inputs	G	G	0
PPF	G	G	0
Launch Site Unique	G	G	0
Spacecraft OPS	G	G	0

SAFETY & MISSION ASSURANCE

	Feb	Mar	Apr
Mission Assurance	Y	Y	0
Safety	G	G	0
Quality	Y	Y	0
Reliability	G	G	0

ENGINEERING

Launch Vehicle	Y	G	G
Mission Specific	G	G	G
Certification	N/A	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	G	N/A	N/A

COMM & TELEMETRY

	Feb	Mar	Apr
Communications	G	G	G
Telemetry	0	0	0

BUSINESS

	Feb	Mar	Apr
Budget	G	G	G
Contracts	G	G	G

LEGEND

Proceeding on Plan
Area of Concern
Significant Problem
Not Evaluated
Not Applicable

G
Y
R
0
N/A

DOWNRANGE TELEMETRY

	Feb	Mar	Apr
Ground Stations	G	G	0
Deployables	Y	G	0
P-3/OTTR	N/A	N/A	0

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OSTM - Open/Accepted Risks

LAUNCH SERVICES PROGRAM

		Condition
RYG Trend	RiskID	Consequence
0	V0052	LSP SMA has noted human error and process issues that indicate that ULA Delta quality management system corrective actions are not preventing re-occurrence.
		The re-occurrence of undetected human errors and process problems can lead to major damage or loss of flight hardware or GSE.
0	V0050	Dawn experienced a significant delay very late in the hardware production process that delayed the launch readiness date. The same contributing causes exist for other NASA missions. In addition, ULA just in time delivery approach provides little margin to hardware need dates.
		Possible delay of other NASA missions.
0	P0019	USAF must fly out 4 Delta II GPS by the end of FY 2008 to avoid USAF Program impacts.
		NASA FPB Manifest dates may be required to move to provide GPS priority.
0	P0018	Traditional DMCO testing on DI vehicles will be eliminated
		Elimination of DMCO testing will not allow for capturing hardware failures off-pad, and thus introduce potential for on pad schedule delays
0	V0047	Failure analysis of a PacSci detonator that failed service life extension testing uncovered a vulnerability in which detonators could be reworked and inadvertently returned to production without the correct load.
		Failure to initiate FTS destruct ordnance chain on command.

P
R
C
B

C
F

C
C
C
U
R
R
E
N
C
E

5
91-100%
4
51-90%
3
11-50%
2
6-10%
1
1-5%



1 2 3 4 5
IMPACT

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OSTM - Actions / Issues / Concerns

LAUNCH SERVICES PROGRAM

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/Problem	Open Date	Due Date
Engineering	0	First flight of CSA Softride on Delta-II to mitigate the spacecraft c.g lateral load factors and the payload axial MECO load factors. Design Certification Review scheduled for 28March08. Softride hardware has been delivered to the launch site.	WI	7/19/2005	03/28/2008
Overall Mission	0	Decatur Production Schedule issues to support first and second stage need date at the launch site. Decatur production schedule is showing good progress to support delivery of the first and second stages to the launch site and CCAFS respectively.		01/15/2008	03/28/2008
Engineering	0	OSTM mission requires the use of the Ordnance Arming Device (OAD). The GG TLX assembly that actuates the OAD has had a test failure. NASA LSP ERB recommended not to use the current GG TLX lot on any NASA Mission. ULA is requesting a Range waiver to allow use of the Detonator Block assembly.	WI		04/25/2008
Engineering	0	First and Second stage power and control relay box contamination issue. NASA LSP ERB addressed the contamination issue with the Tyco relays. Currently, the NASA board has accepted the work around plan and this plan will support the OSTM launch date.	WI	02/18/2008	04/29/2008

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OSTM - Significant Events

LAUNCH SERVICES PROGRAM

Accomplished	
CCR written to change the configuration of the launch vehicle from a 7320-9.5 to a 7320-10.	
Range Concept Briefing	05/18/05
CLA data delivered to S/C	
S/C PDR	Nov-2005
Boeing performed the Quick CLA to determine loads on S/C with 10 Ft fairing.	
Preliminary Isolation system design	
Kick off MIWG	06/29/06
ATP	Mar-2006
Study(TA) on load alleviation systems	
RFP to take Isolation system to PDR	
Satellite CDR	10/24/06-10/24/2006
MIWG/GOWG at JPL	11/16/2006-Nov. 2006
SoftRide Isolation System PDR	02/8/2007-2/8/2007
Meeting with CEO office to present Softride System for OSTM	11/21/2006-11/21/2006
MIWG/GOWG	02/21/2007-02/22/2007
Isolation System Phase II Turn on	3/23/07-4/3/07
OSTM Spacecraft Load Isolation System PDR & ERB	02/08/2007-02/08/2007
ICD ERB	4/8/07-4/8/07
ICD ERB Peer Review with Integration Group completed.	04/04/2007-04/04/2007
Softride system - Component Level CDR (KSC ERB held in conjunction with the CDR / ERS-07-142)	5/15/07-05/15/2007

Planned	
OSTM Spacecraft Ship from Thales Alenia, Cannes FR to VAFB	04/17/2008-04/22/2008
OSTM Load Isolation System - Design Certification Review (DCR) at ULA, Denver	03/28/2008-04/10/2008
ULA Mission Analysis Review (Denver)	04/03/2008-04/04/2008
Ground Operation Review (VAFB)	03/26/2008-03/27/2008

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Softride Component Level CDR - Action Items Responses (ERB Reconvene) prior to start of QQual Test Program.	06/05/2007-06/05/2007
OSTM 3715 PAF HAR at Astrium, England	07/11/2007-07/13/2007
OSTM MIWG & GOWG @ Alcatel, France	08/30/2007-09/02/2007
OSTM Separation shock Tests at Alcatel, France	08/27/2007-08/29/2007
Softride System- Isolators Qualification Testing at CSA	06/26/2007-07/21/2007
Softride - System Level CDR @ HB (LSP ERB in conjunction) - ERB completed partialy. A recontinue is scheduled for August 21.	08/09/2007-08/21/2007
OSTM Vibration Testing at Alcatel, France . Accomplished successfully	08/28/2007-08/13/2007
ICD Signed off.	06/14/2007-9/02/07
Payload to Blockhouse Wiring Diagram reviewed by LSP team and comments provided to ULA. Updated version in work	06/08/2007-06/18/2007
RF Hazard Analysis Review complete. Errors found in the analysis due to conservative assumptions. ULA is updating the analysis.	06/05/2007-06/18/2007
Preliminary Mission Analysis Input reviewed and submitted to ULA.	04/10/2007-04/16/2007
Preliminary Mission Analysis results expected July 13.	07/13/2007-9/02/07
Payload Separation Analysis- Initial Memo expected June 15.	06/15/2007-07/21/2007
OSTM Fit Check at Alcatel, France	10/08/2007-10/12/2007
OSTM Softride Isolator Hardware Acceptance Review at CSA Engineering	09/26/2007-10/02/2007
Spacecraft Mass Simulator Tap Test and Model Correlation	11/01/2007-11/20/2007
OSTM Softride Isolation System Dynamic Testing At Huntington Beach	11/05/2007-12/21/2007
OSTM Softride Isolation System Shock Attenuation Testing at HB	12/03/2007-12/21/2007

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OSTM GOWG at VAFB	12/11/2007-12/13/2007
OSTM MIWG AT VAFB	12/13/2007-12/13/2007
S/C Thermal Model Developed by JPL and Converted to Required Format BY NASA LSP	11/20/2007-12/04/2007
S/C Thermal Model Delevered to ULA	12/05/2007-12/05/2007
OSTM Spacecraft Qualification Review at Thales Alenia, Cannes FR	03/10/2008-03/15/2008
OSTM Isolation System integration to flight payload attach fitting (PAF)	01/24/2008-01/30/2008
OSTM Isolation System and PAF shippment from HB to VAFB	02/22/2008-02/28/2008
OSTM MIWG Meeting at KSC	02/28/2008-02/28/2008
OSTM PAF/Load Isolation System fitcheck with DMA	03/03/2008-03/07/2008

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BOSS OSTM Schedule

LSP-F-330.02 Basic

Page 1 of 2

4/15/08

WBS	Name	Resp.	2006				2007				2008			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	LV & SC Eng & Mfg Phase (~L-27 mths to ~L-3 mths)													
	START PHASE		3/16 ▲											8/15
4.3.1	ATP the Mission & Secure Funding	PIM	3/16 ▲											
4.3.2	Hold MIWG Kickoff Meeting	MM		6/29 ▲										
4.3.3	Manage ICD Development	MM	3/16									6/15		
4.3.4	CDRL Input & Approval	MM	3/16										8/15	
4.3.5	MU Requirements Review	LV									3/20 ▲			
4.3.6	Launch Vehicle Design Review (PDR & CDR)	LV												
4.3.7	LV Mfg	LV							11/1			3/28		
4.3.8	"LV Contractor Internal MRR (e.g., MRB or VSTR)"	LV							12/11 ▲					
4.3.9	Define SC Testing	SC					3/10 ▲							
4.3.10	SIR	SC												
4.3.11	S/C Testing	SC						7/9			12/7			
4.3.12	Provide S/C CDRL Input	SC	3/16										8/15	
4.3.13	Develop Launch Site Operations Plan	SC						8/1			1/1			
4.3.14	S/C Final MSPSP	SC							12/11 ▲					
4.3.15	Develop Launch Site Procedures	SC								2/8 ▲				
4.3.16	CDRL Review	TM	3/16										8/15	
4.3.17	Mission Unique IV&V	TM							11/15			4/15		
4.3.18	Publish Preliminary Launch Site Support Plan	LSIM							1/11 ▲					
4.3.19	"Exercise all TA's, NSS, Mods to contract to meet needs"	PIM												
4.3.20	Procure PPF via Payload Process Task Order	PIM						8/2 ▲						
4.3.21	Release PRD/OR to WR	LSIM									3/1 ▲			

TM = Technical Management

LSIM = Launch Site Integration Manager

PIM = Program Integration Manager

HQ = NASA HQ & Mission Directorate

LSTO = LSTO (Mini Source Board)

SC = Spacecraft Project

LD = Launch Director

LV = Launch Vehicle Contractor

SMA = Safety & Mission Assurance

LSP = LSP Mgmt

MM = Mission Manager

BOSS OSTM Schedule

LSP-F-330.02 Basic

Page 2 of 2

4/15/08

WBS	Name	Resp.	2006				2007				2008		
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
4.3.22	Review LV Mission Unique MSPSP	SMA									3/17		4/30
4.3.23	Mission Support Analysis	TM	3/16										6/15
4.3.24	Verify ICD	TM								1/14			6/15
4.3.25	HAR/MSR equivalent	LV					7/11						
4.3.26	Develop LV/SC & Integrated LS Procedures	LV								12/11			5/9
4.3.27	LV Components arrives at Launch Site	LV									4/17		
4.3.28	Publish Baseline LSSP	LSIM								1/11		3/31	Rev A
4.3.29	GOWG	LSIM			11/16	2/21		8/30	12/11				
4.3.30	Prepare PPF & services for GSE/SC arrival	LSIM								2/28			4/28
4.3.31	Comm & Telemetry Reviews	LSIM								3/25			
4.3.32	Review S/C Final MSPSP	SMA								12/13		2/1	
4.3.33	GOR	LSIM								3/26			
4.3.34	Process Launch Delays as needed	PIM											
4.3.35	Track Milestone Payments	PIM	3/15										6/15
4.3.36	Procure Deployable & Fixed Telemetry Assets	PIM								1/15			5/1
4.3.37	Begin Access Badging & Training	LSIM								3/26			
4.3.38	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev,	TM			9/16								6/15
4.3.39	Payload-LV Fitcheck	TM							10/11				
4.3.40	MIWG	MM			11/16	2/21		8/30	12/11	2/28			
4.3.41	Safety TIMS PSWG	SMA					2/21		8/30	12/11			
4.3.42	S/C PreShip Review	SC									4/14		
4.3.43	S/C Ships	SC									4/29		
4.3.44	Phase Close-Out	MM									4/17		

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OSTM Mission Management

Armando Piloto

LAUNCH SERVICES PROGRAM

Mission

Launch Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD

OSTM
2008/06/15
1336 km polar, 66 degree incl.
Delta II
Commercial PPF
620 kg. /
SLC-2



ICD

Feb	Mar	Apr
G	G	0

SIGNED SCNS:		SCNS IN REVIEW	
SCN #	DATE SIGNED	SCN #	DATE SIGNED
001	03/06/2008	002	
005	03/06/2008	003	
007	03/06/2008	006	
008	03/06/2008	009	
010	03/06/2008	011	
		012	
		013	
		014	

Observatory Status

Observatory Status

Schedule

Budget

Deliverables

Testing

ATLO

Instrument

Feb	Mar	Apr
G	G	0
G	G	0
G	G	G
G	G	0
G	G	0
G	G	0
G	G	0

Launch Vehicle Status

Integrated Schedule

CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables

P-3/OTTR

Feb	Mar	Apr
G	G	0
G	G	0
G	G	0
G	G	0
Y	G	0
N/A	N/A	0

Mission Center:

Program:

PM

LVI

MM

IE

LSIM

PIM

MAM

MCE

MTE

JPL
Parag Vase
Mike Gallagher
Armando Piloto
Thomas Frattin
Julie Schneringer
Walner Thervil
Craig Schreiber
Robert McEntire
Alex Biamonte

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OSTM - Engineering

Thomas Frattin

LAUNCH SERVICES PROGRAM

	Feb	Mar	Apr
Launch Vehicle	Y	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	Y	G	G
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	G	G	G
Other	N/A	N/A	N/A
Mission Specific	G	G	G
Certification	N/A	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	G	N/A	N/A

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
There are none.

MISSION UNIQUE STUDIES (IF APPLICABLE)
Spacecraft Thermal Analysis
Payload Fairing Venting Analysis

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OSTM - Mission ERB Status

Thomas Frattin

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
0	ERB-06-330	OSTM Soft Ride System- System Level PDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0	ERB-07-142	OSTM Softride System- Component Level CDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	ERB-07-73	OSTM ICD ERB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	ERB-07-181	OSTM Load Isolation System-CDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	ERS-08-030	OSTM Load Isolation System - Design Certification Review (DCR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	08-37	OSTM Camera	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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OSTM - Vehicle ERB Status

Thomas Frattin

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
0	08-TBD	Delta II Alenia Tank FM-21(OSTM) Circumferential/Boss Weld Defects	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	07-308	Delta II GG TLX Output Failure (OAD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	07-02	Delta II 2nd Stage Propellant Tank Design and Process Revisions (Clickbonds)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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OSTM - Launch Site

Julie Schneringer

LAUNCH SERVICES PROGRAM

LSSP

Feb Mar Apr

G	G	0
---	---	---

LSSP	Planned	Released
Preliminary	03/15/2007	05/18/2007
Baseline	12/12/2007	12/12/2007

CUSTOMER INPUTS

Feb Mar Apr

G	G	0
---	---	---

DELIVERABLES

Feb Mar Apr

Security and Badging	G	G	0
Training and Personnel Cert	G	G	0
Contingency Plans	G	G	0
Safety LSIM	G	G	0
Radiation Control	G	G	0
Operational Plans	G	G	0

UNIQUE REQUIREMENTS

LAUNCH SITE UNIQUE

Feb Mar Apr

G	G	0
G	G	0
G	G	0

PPF

Commerical PPF

PPF TAA

G	G	0
G	G	0
G	G	0

Spacecraft OPS

Fueling

G	G	0
G	G	0

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OSTM Budget Breakdown

Walner Thervil

LAUNCH SERVICES PROGRAM

The launch service budget includes:

* **Launch Services**

- Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.

* **Mission Uniques**

- Requirements necessary to customize basic vehicle hardware to meet unique s/c driven requirements.
- Other services directly attributable to the mission.
- Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.

* **Integrated Services**

- LSP contractor support service (ELVIS, CAPPs, JBOSC, KICs, etc).
- USAF range costs attributable to the mission
- Limited flexibility

* **Payload Processing Facility**

- Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
- Commercial facility: all other missions have been directed to process in a commercial facility.
- Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.

* **Telemetry**

- Assets required to meet minimum launch vehicle telemetry requirements.
- Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
- Limited flexibility requirements are often set late in the integration cycle.

* **Fly Out**

- Costs that each mission in the 19-Pack must incur.
- Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
- Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
- Pad Sustainability costs for SLC-2 and SLC-17.
- No flexibility-contract costs

* **Nuclear**

- RTG/RHU processing
- RTG/RHU databooks and approval
- Limited flexibility

* **Reimbursable**

- Reimbursable FC for transportation, labor, and CMO.

* **Mission Flexibility**

- Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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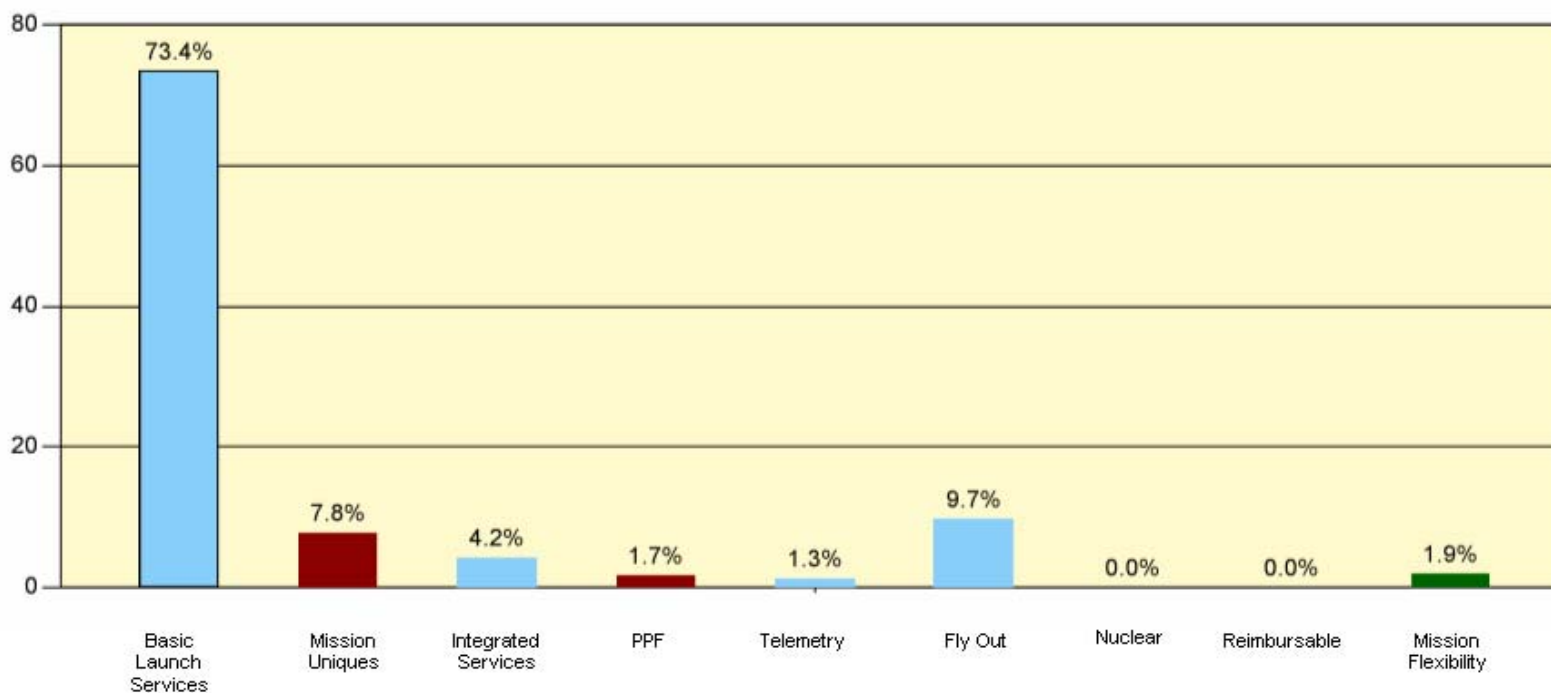
Launch Services Budget Breakdown

OSTM Mission

Walner Thervil

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 4 / 2008



- No flexibility; cost are fixed
- Limited Flexibility depending on spacecraft requirements
- Flexible portion of budget

Notes:

Note: Above percentages contain dollars associated with the Boeing settlement. Boeing settlement for this mission is \$367K. Variance: Not significant compared from previous quarter.

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OSTM - Business

Walner Thervil

LAUNCH SERVICES PROGRAM

Budget

Contracts

Feb Mar Apr

G	G	G
G	G	G

Milestone	Date
Milestone #1	3/15/2006
Milestone #2	6/15/2006
Milestone #3	10/30/2006
Milestone #4	2/6/2007
Milestone #5	4/4/2007
Milestone #6	10/03/2007
Milestone #7	9/15/2007
Milestone #8	12/15/2007
Milestone #9	3/15/2008
Milestone #10	6/15/2008

<input type="checkbox"/>	Open Milestone Payment
<input type="checkbox"/>	Paid Milestone

Contract Status

Launch Services		
Contract Mod	Number	Description
	163	NSS 2.1.2 - 9.5ft to 10ft PLF
	175	NSS 20.3.3 Quick Turnaround Coupled Loads
	212	Flyout costs + Mission ATP
	125	Flyout costs
	240	NSS 32.1 FY06 VAFB Launch Site Maintenance
	057	NSS 30.1 Long-lead Mat'l/Adv for NSS 33.2 Mission critical FY03
	050	Original 19-Pack Launch Date 12/31/2006
	307	NSS 10.1 Onboard Camera
	318	NSS 36.1 Telemetry Acquisition Assistance Message and Vehicle Acquisition Message

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Contract Mod	Number	Description		
	287	NSS 35.2 Additional 40 Mission Console Notebooks for VAFB Launches		
Contract Mod (LD)	Number	Description		
	136	Delay from 12/31/06 to 10/1/07		
	159	Launch delay from 10/1/07 to 4/1/08		
	212	Delay from 4/1/08 to 6/15/08		
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-155	OSTM Environments Effort	04/25/2005	09/30/2005
	NLSB-165	Parametric Study for Loads	08/30/2005	07/27/2005
	NLSB-165R1	Parametric Study for Loads	11/10/2005	11/02/2005
	NLSB-177R1	Passive Isolation Sys	01/17/2006	03/15/2006
	NLSB-177R2	Passive Isolation Sys	02/17/2006	03/27/2006
	NLSB-195R2	CLA for Passive Isolation Sys	06/16/2006	07/17/2006
	NLSB-225	MECO Loads Analysis	07/24/2006	09/15/2006
	NLSB-229	Spacer for Isolation System	08/31/2006	09/20/2006
	NLSB-235	Inert DPAF Proposal Prep	04/14/2006	09/11/2006
	NLSB-242	PAF Pre-production review	11/29/2006	11/20/2006
	NLSB-248	Passive Isolation System to PDR (Phase 1)	04/09/2007	06/21/2007
	NLSB-266	Isolation System Engineering Development Unit (EDU) Fabrication	03/28/2007	06/21/2007
	NLSB-272R1	Payload Isolation System Implementation	07/15/2008	
	NLSB-293	OSTM Ground Support Equipment Task Plan Proposal Cost.	06/15/2007	08/13/2007
	NLSB-298	OSTM Payload Attach Fitting and Clampband inspection	08/08/2007	01/07/2008
	NLSB-313	Flight Camera Relocation	07/20/2008	
Contract Mod (PPF)	Number	Description		
	WCCPP-001	Commercial PPF (TO# NNN07LA87D)		
There are no Other Contract Mods				

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	Issues
Y	MIM/PIM to start working Mission Success letter with OSTM
G	Mission has 30 days of grace remaining. The next notification point for potential launch delay is June 4, 2008 (L-11 days) for either Government or Contractor .

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Center

OSTM - Safety and Mission Assurance

Craig Schreiber

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status		Evidence of Completion			
	Complete	In Work		Feb	Mar	Apr
Quality				Y	Y	0
Software / Hardware Problems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Continuing to monitor ULA-Boeing's response to Quality Management System risk	Y	Y	0
Alerts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA is tracking no GIDEP issues at this time	G	G	0
Audits/Inspections/Surveillances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA Quality is continuing to selectively perform surveillances and audits	G	G	0
Limited Life Items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA is tracking no LLI issues at this time	G	G	0
Reliability				G	G	0
FMEA/Fishbones/Equivalent	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0
Reliability Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0
Safety				G	G	0
Requirements Definitions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	0
Range Safety & Mission Flight Rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0
Licenses/Use Authorizations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0
Safety Documentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	comments to final MSPSP submitted.	G	G	0
Non-compliances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Waiver submitted for propulsion system, similar to Calipso S/C. Amendment to waiver in work.	G	G	0
Contingency Planning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0
Mission Assurance				Y	Y	0
Lessons Learned	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0
First Flight/Mission Unique items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Softride implementation, 1st use. 2nd stg clean to VC-3, video camera & 6 accels.	G	G	0
Test/Qualification/Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0
Mission Assurance Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Alenia 2nd-Stage Oxidizer Leak	Y	Y	0
Risk Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	0

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OSTM Comm & Telemetry

Robert McEntire and Alex Biamonte

LAUNCH SERVICES PROGRAM

Communications

Voice Comm
Data Comm
Networks
Video Comm
Timing
RF Comm
LSSP Comm Annex

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Telemetry

Decommuration Tables
Data Integrity Test
Software Lockdown
Software Inventory
Console Configuration
Console Checkout

Feb	Mar	Apr
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

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Kepler Project Summary

LAUNCH SERVICES PROGRAM

Mission	Kepler
Launch Date	2009/02/16
Launch Vehicle	Delta II
Launch Period Window	
PPF	Commercial PPF

OVERALL MISSION

Feb	Mar	Apr
G	G	G

MISSION MANAGEMENT

Observatory Status
Manifest/Range
Integrated Schedule
ICD
CDRLs (S/C & LSC)

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

LAUNCH SITE

LSSP
Customer Inputs
PPF
Launch Site Unique
Spacecraft OPS

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
0	0	0

SAFETY & MISSION ASSURANCE

Mission Assurance
Safety
Quality
Reliability

Feb	Mar	Apr
Y	Y	Y
G	G	G
Y	Y	Y
G	G	G

ENGINEERING

Launch Vehicle
Mission Specific
Certification
Mission Analysis
ERS/ERB
Launch PAD/GSE
Mission Unique IV&V

G	G	G
G	G	G
N/A	N/A	N/A
G	G	G
G	G	G
G	G	G
N/A	N/A	N/A

COMM & TELEMETRY

Communications
Telemetry

G	G	G
0	0	0

BUSINESS

Budget
Contracts

G	G	G
G	G	G

LEGEND

Proceeding on Plan
Area of Concern
Significant Problem
Not Evaluated
Not Applicable

G
Y
R
0
N/A

DOWNRANGE TELEMETRY

Ground Stations
Deployables
P-3/OTTR

0	0	0
0	0	0
0	0	0

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Kepler - Open/Accepted Risks

LAUNCH SERVICES PROGRAM

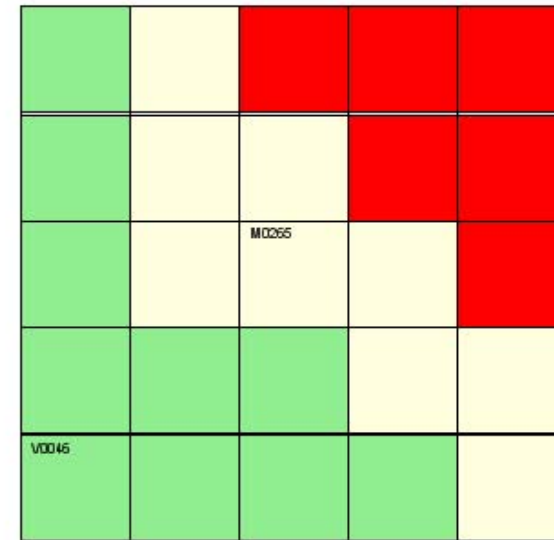
		Condition
RYG Trend	RiskID	Consequence
G	V0046	ULA/Boeing does not perform an inspection for microscopic cracks (micro cracks) before providing a spacecraft customer with a Test Payload Attach Fitting (TPAF) or clampband.
		Propagation of a micro crack(s) in the TPAF or clampband during shock or vibration testing could cause damage to the spacecraft.
Y	M0265	A signed MOA and Host Tenant Agreement (HTA) for transition of SLC-17 Delta-II assets from Air Force to NASA does not currently exist.
		Without signed MOA and HTA, there will no way to quantify cost of O&M for the Kepler Mission.

P
R
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C
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C
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R
E
N
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E

5
91-
100%
4
51-90%
3
11-50%
2
6-
10%
1
1-5%



1 2 3 4 5

IMPACT

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John F. Kennedy Space Center

Kepler - Actions / Issues / Concerns

LAUNCH SERVICES PROGRAM

There are no Actions.

There are no Issues or Concerns.

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John F. Kennedy Space Center

Kepler - Significant Events

LAUNCH SERVICES PROGRAM

Accomplished	
TPAF use TA on contract near term	
Received and negotiated TPAF build proposal	
Revised FY06 funding profile to assist project with 2nd Qt shortfall	
Kepler Delta CDR	10/16/06-10/20/06
TA in work to determine Boeing approval of S/C use of "to be negotiated" area below sep plane. Received preliminary approval from Boeing in Aug.	08/01/2006
Boeing support/training for TPAF at Ball facility	10/02/2006-10/11/2006
Provide some of the flight connectors to support Kepler Cable build schedule.	12/15/2006-12/15/2006
Received Kepler FEM to support third CLA analysis and forwarded to Boeing (Contract Mod still in work)	09/11/2006-09/13/2006
S/C to deliver thermal model for ITA, canceled activity	12/22/2006-03/09/2007
MIWG planned for Nov 16	11/16/2006-11/16/2006
GOWG on Jan 19 at Astrotech, Titusville	01/18/2007
Delivered updated Kepler IRD	02/05/2007-02/07/2007
planning kick-off MIWG, April 5 in HB	02/08/2007-04/5/2007
ULA to deliver final set of GSE connectors to S/C	02/01/2007-02/23/2007
Draft ICD released for review	03/31/2007-4/31/2007
S/C delivered IGES files as input to Mission Compatibility. Delivered to LSC	02/14/2007-03/02/2007
MIWG/GOWG at KSC on 23-24 October	08/14/2007-10/25/2007
PMA input	11/26/2007-02/26/2008

There are no items planned

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MIWG planned for 19 March 2008	03/19/2008
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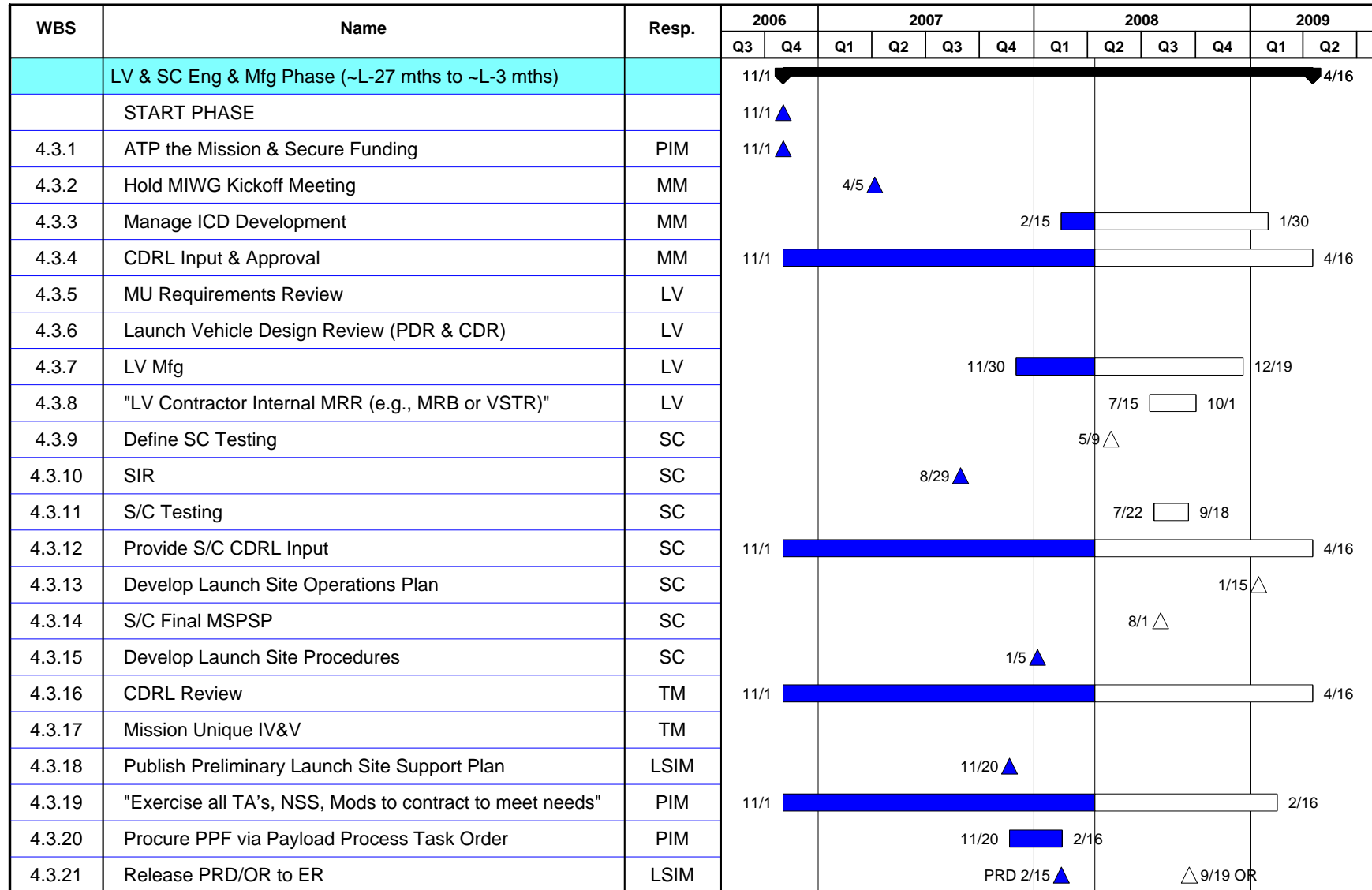
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BOSS Kepler Schedule

LSP-F-330.02 Basic

Page 1 of 2

4/11/08



TM = Technical Management

LSIM = Launch Site Integration Manager

PIM = Program Integration Manager

HQ = NASA HQ & Mission Directorate

LSTO = LSTO (Mini Source Board)

SC = Spacecraft Project

LD = Launch Director

LV = Launch Vehicle Contractor

SMA = Safety & Mission Assurance

LSP = LSP Mgmt

MM = Mission Manager

BOSS Kepler Schedule

LSP-F-330.02 Basic

Page 2 of 2

4/11/08

WBS	Name	Resp.	2006		2007				2008				2009	
			Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
4.3.22	Review LV Mission Unique MSPSP	SMA									12/16		1/16	
4.3.23	Mission Support Analysis	TM												
4.3.24	Verify ICD	TM						2/15					2/16	
4.3.25	HAR/MSR equivalent	LV							5/1	△ Tentative				
4.3.26	Develop LV/SC & Integrated LS Procedures	LV						1/5	▲					
4.3.27	LV Components arrives at Launch Site	LV									11/19	△		
4.3.28	Publish Baseline LSSP	LSIM									9/9	△		
4.3.29	GOWG	LSIM		1/18	▲									
4.3.30	Prepare PPF & services for GSE/SC arrival	LSIM									10/6		12/8	
4.3.31	Comm & Telemetry Reviews	LSIM						2/1					11/7	
4.3.32	Review S/C Final MSPSP	SMA									10/15		11/15	
4.3.33	GOR	LSIM									11/7	△		
4.3.34	Process Launch Delays as needed	PIM	11/1										2/16	
4.3.35	Track Milestone Payments	PIM	11/1										2/16	
4.3.36	Procure Deployable & Fixed Telemetry Assets	PIM									8/16		2/16	
4.3.37	Begin Access Badging & Training	LSIM									10/6		2/6	
4.3.38	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev,	TM	11/1										2/16	
4.3.39	Payload-LV Fitcheck	TM									8/25	△		
4.3.40	MIWG	MM		▲				▲		▲	△	△	△	
4.3.41	Safety TMS PSWG	SMA		1/18	▲			10/24	▲					
4.3.42	S/C PreShip Review	SC									8/15	△		
4.3.43	S/C Ships	SC									8/16	△		
4.3.44	Phase Close-Out	MM										11/16	△	

TM = Technical Management

LSIM = Launch Site Integration Manager

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LSTO = LSTO (Mini Source Board)

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LV = Launch Vehicle Contractor

SMA = Safety & Mission Assurance

LSP = LSP Mgmt

MM = Mission Manager



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Kepler Mission Management

Dave Breedlove

LAUNCH SERVICES PROGRAM

Mission

Launch Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD

Kepler
2009/02/16
C3 0.6 km2/sec2, Earth trailing heliocentric
Delta II
Commercial PPF
1181 kg
Other

Kepler

ICD

Feb	Mar	Apr
G	G	G

There are no signed SCNs

There are no SCNs in Review

Observatory Status

Observatory Status

Schedule

Budget

Deliverables

Testing

ATLO

Instrument

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Launch Vehicle Status

Integrated Schedule

CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables

P-3/OTTR

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
0	0	0
0	0	0
0	0	0

Mission Center:

Program:

PM

LVI

MM

IE

LSIM

PIM

MAM

MCE

MTE

JPL

Leslie Livesay

Pete Darus

Dave Breedlove

Larry Craig

William Van Dyke

Randy Mizelle

Homero Hidalgo

Tuan Doan

José Amador, PhD

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Kepler - Engineering

Larry Craig

LAUNCH SERVICES PROGRAM

	Feb	Mar	Apr
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	G	G	G
Payload Attach Fitting	G	G	G
Other	0	N/A	N/A
Mission Specific	G	G	G
Certification	N/A	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
IRD has requirement to use GN2 purge similar to MAP

MISSION UNIQUE STUDIES (IF APPLICABLE)
There are none.

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Kepler - Mission ERB Status

Larry Craig

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
0	05-379	Kepler IRD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Kepler - Vehicle ERB Status

Larry Craig

LAUNCH SERVICES PROGRAM

There are no Vehicle ERBs for this mission.

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Kepler - Launch Site

William Van Dyke

LAUNCH SERVICES PROGRAM

LSSP

Feb Mar Apr

G	G	G
---	---	---

LSSP	Planned	Released
Preliminary	11/16/07	11/20/07
Baseline	09/09/08	

UNIQUE REQUIREMENTS

Feb Mar Apr

LAUNCH SITE UNIQUE

G	G	G
---	---	---

PPF

G	G	G
---	---	---

CUSTOMER INPUTS

Feb Mar Apr

G	G	G
---	---	---

DELIVERABLES

Feb Mar Apr

Security and Badging
Training and Personnel Cert
Contingency Plans
Safety LSIM
Radiation Control
Operational Plans

G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Spacecraft OPS

0	0	0
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Kepler Budget Breakdown

Randy Mizelle

LAUNCH SERVICES PROGRAM

The launch service budget includes:

* **Launch Services**

- Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.

* **Mission Uniques**

- Requirements necessary to customize basic vehicle hardware to meet unique s/c driven requirements.
- Other services directly attributable to the mission.
- Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.

* **Integrated Services**

- LSP contractor support service (ELVIS, CAPPs, JBOSC, KICs, etc).
- USAF range costs attributable to the mission
- Limited flexibility

* **Payload Processing Facility**

- Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
- Commercial facility: all other missions have been directed to process in a commercial facility;
- Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.

* **Telemetry**

- Assets required to meet minimum launch vehicle telemetry requirements.
- Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
- Limited flexibility requirements are often set late in the integration cycle.

* **Fly Out**

- Costs that each mission in the 19-Pack must incur.
- Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
- Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
- Pad Sustainability costs for SLC-2 and SLC-17.
- No flexibility-contract costs

* **Nuclear**

- RTG/RHU processing
- RTG/RHU databooks and approval
- Limited flexibility

* **Reimbursable**

- Reimbursable FC for transportation, labor, and CMO.

* **Mission Flexibility**

- Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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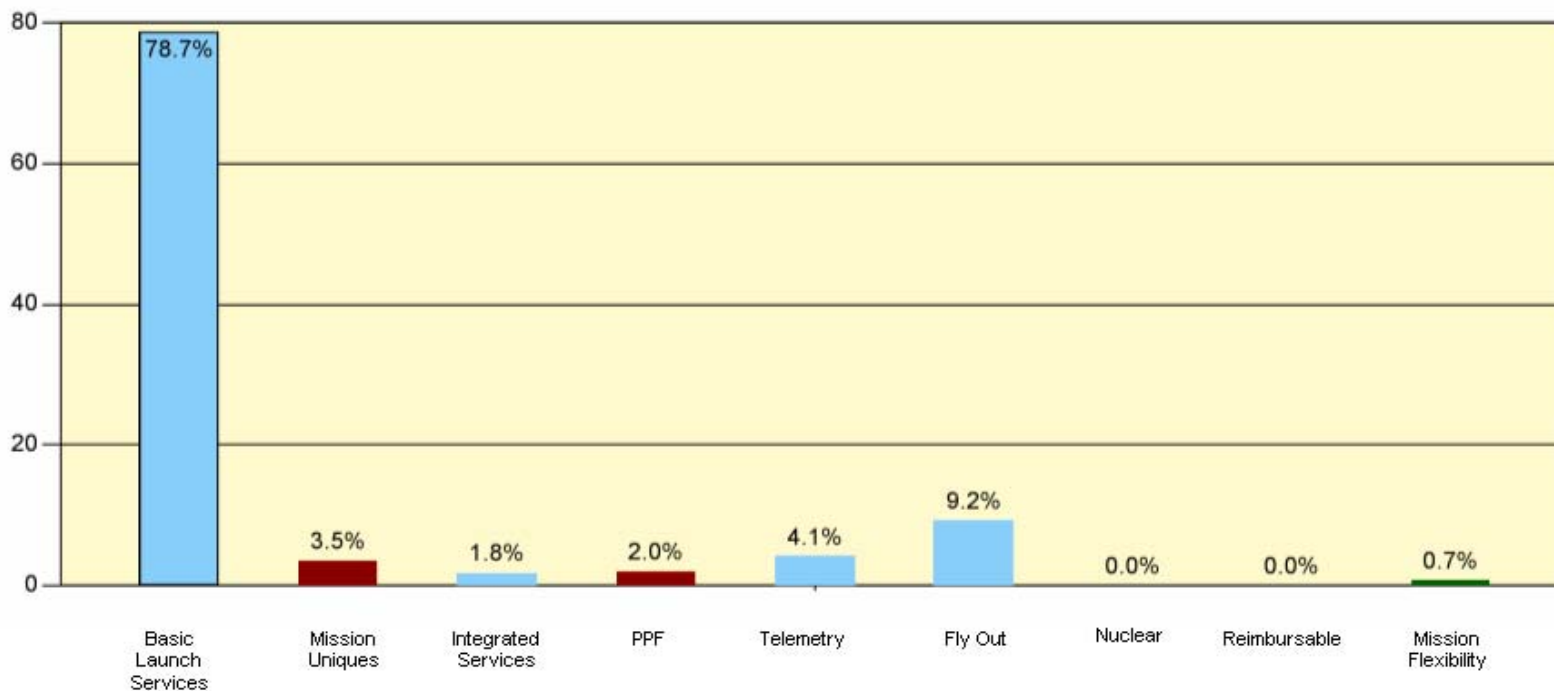
Launch Services Budget Breakdown

Kepler Mission

Randy Mizelle

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 4 / 2008



- No flexibility; cost are fixed
- Limited Flexibility depending on spacecraft requirements
- Flexible portion of budget

Notes:

Above percentages contain dollars associated with the Boeing settlement.
Boeing settlement for this mission is \$645.0K.

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Kepler - Business

Randy Mizelle

LAUNCH SERVICES PROGRAM

Budget

Contracts

Feb	Mar	Apr
G	G	G
G	G	G

Milestone	Date
Milestone #1	12/04/2006
Milestone #2	03/06/2007
Milestone #3	07/09/2007
Milestone #4	03/18/2008
Milestone #5	03/18/2008
Milestone #6	05/16/2008
Milestone #7	08/16/2008
Milestone #8	11/16/2008
Milestone #9	02/16/2008

<input type="checkbox"/>	Open Milestone Payment
<input type="checkbox"/>	Paid Milestone

Contract Status		
Launch Services		
Contract Mod	Number	Description
	100	NSS 20.3.3/Quick Turnaround CLA
	152	NSS 20.3.2 Preliminary Performance/Trajectory Analysis
	178	NSS 20.3.4 Final Design Load Cycle
	125	NSS 33.1 Post Production Support CY05 (flyout)
	229	KEPLER Test Payload Attach Fitting (PAF)
	242	NSS 20.2 Early MIWG NSS 20.3.2 Preliminary Performance/Trajectory Analysis NSS 20.3.3 Quick Turnaround Coupled Loads Analysis
	125	NSS 30.1 Long-lead Mat'l/Adv NSS 33.1 Post Prod Spt (FY05)
	255	CLIN 21 Kepler Basic Launch Service
	255	NSS 2.1.1 Replace 10-ft w/10L PLF

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Contract Mod	Number	Description		
	255	NSS 20.1 Pedigree Review		
	255	NSS 20.3.4 Final Design Load Analysis		
	255	NSS 9.1.2 Two 61-pin connectors		
	255	NSS 2.1.2 Replace 9ft Fairing with 10ft Fairing		
	0272	Cancel NSS 20.3.2 Preliminary Performance/Trajectory Analysis		
	255	ATP Mission		
	240	NSS 32.1 VAFB Launch Site O&M and NSS 33.1 Post Production Support		
	0306	Launch delay from 11/01/08 to 02/16/09.		
	309	NSS 35.2 Additional 40 Mission Console Notebooks		
There are no LD Contract Mods				
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-210R1	TPAF Support	11/1/2006	01/17/2007
	NLSB-221	TA NLSB-254 HGA Relocation Evaluation	09/15/2006	09/20/2006
	NLSB-245R1	61-Pin Connectors additional Material	12/18/2006	01/17/2007
	NLSB-253	Additional Integrated Thermal Analysis.	03/01/2007	03/19/2007
	NLSB-286	Kepler Line-Load Analysis	06/08/2007	01/08/2008
	NLSB-308	Electrical Interface Test Connectors	04/30/2008	
	NLSB-316	Electrical Connector Interface Bracket	08/19/2008	
There are no PPF Contract Mods				
There are no Other Contract Mods				
	Issues			
G	Mission has 0 days of grace remaining and the next notification point for a potential launch delay is 08/15/2008 for either Government or Contractor (L-6 mo + 1 Day).			

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Center

Kepler - Safety and Mission Assurance

Homero Hidalgo

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status		Evidence of Completion			
	Complete	In Work		Feb	Mar	Apr
Quality				Y	Y	Y
Software / Hardware Problems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Currently re-evaluating the ULA-Boeing's Quality Management System risk.	Y	Y	Y
Alerts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA is tracking no GIDEP issues at this time.	G	G	G
Audits/Inspections/Surveillances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA Quality is continuing to selectively perform surveillances and audits	G	G	G
Limited Life Items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA is tracking no LLI issues at this time.	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No FMEA/Fishbones/Equivalent have been identified	G	G	G
Reliability Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The reliability data gathering task is continuing	G	G	G
Safety				G	G	G
Requirements Definitions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No issues	G	G	G
Range Safety & Mission Flight Rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	G
Licenses/Use Authorizations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	G
Safety Documentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	G
Non-compliances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Expecting Noncompliance for prop F&D valves	G	G	G
Contingency Planning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No status	G	G	G
Mission Assurance				Y	Y	Y
Lessons Learned	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues.	G	G	G
First Flight/Mission Unique items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	G
Test/Qualification/Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	G
Mission Assurance Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Alenia 2nd-Stage Oxidizer Leak, inspection process ID; ULA transition	Y	Y	Y
Risk Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	G

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Kepler Comm & Telemetry

Tuan Doan and José Amador, PhD

LAUNCH SERVICES PROGRAM

Communications

Voice Comm
Data Comm
Networks
Video Comm
Timing
RF Comm
LSSP Comm Annex

Feb	Mar	Apr
G	G	G
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Telemetry

Decommuration Tables
Data Integrity Test
Software Lockdown
Software Inventory
Console Configuration
Console Checkout

Feb	Mar	Apr
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

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WISE Project Summary

LAUNCH SERVICES PROGRAM

Mission	WISE
Launch Date	2009/11/01
Launch Vehicle	Delta II
Launch Period Window	Any day of year
PPF	Commercial PPF

OVERALL MISSION

Feb	Mar	Apr
G	Y	Y

MISSION MANAGEMENT

Observatory Status
Manifest/Range
Integrated Schedule
ICD
CDRLs (S/C & LSC)

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

LAUNCH SITE

LSSP
Customer Inputs
PPF
Launch Site Unique
Spacecraft OPS

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

SAFETY & MISSION ASSURANCE

Mission Assurance
Safety
Quality
Reliability

Feb	Mar	Apr
Y	Y	Y
G	G	G
Y	Y	Y
G	G	G

ENGINEERING

Launch Vehicle
Mission Specific
Certification
Mission Analysis
ERS/ERB
Launch PAD/GSE
Mission Unique IV&V

G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
N/A	N/A	N/A

COMM & TELEMETRY

Communications
Telemetry

G	G	0
0	0	0

BUSINESS

Budget
Contracts

G	G	G
G	G	Y

LEGEND

Proceeding on Plan
Area of Concern
Significant Problem
Not Evaluated
Not Applicable

G
Y
R
0
N/A

DOWNRANGE TELEMETRY

Ground Stations
Deployables
P-3/OTTR

G	G	G
G	G	G
G	G	G

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WISE - Open/Accepted Risks

LAUNCH SERVICES PROGRAM

		Condition
RYG Trend	RiskID	Consequence
0	V0046	ULA/Boeing does not perform an inspection for microscopic cracks before providing a spacecraft customer with a test payload attach fitting (TPAF) or clampband.
		Propagation of a micro crack(s) in the TPAF or clampband during shock or vibration testing could cause damage to the spacecraft. Update 11/9/07 JOH: SOW in work to perform dye-pen inspection of the TPAF to check for cracks. (12/3/07, JOH update) TA to perform the PAF and associated Clampband inspection has been released. Delivery of the PAF/Clampband to the S/C Project is expected by 1/20/08.
0	V0052	LS SMA has noted human error and process issues that indicate that Boeing's quality management system corrective actions are not preventing re-occurrence.
		The re-occurrence of undetected human errors and process problems can lead to major damage or loss of flight hardware or GSE.
0	V0050	Dawn experienced a significant delay very late in the hardware production process that delayed the launch readiness date. The same contributing causes exist for other NASA missions.
		Possible delay of other NASA missions.

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5
91-
100%
4
51-90%
3
11-50%
2
6-
10%
1
1-5%



1 2 3 4 5

IMPACT

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0	P0018	Traditional DMCO Testing (Bldg AO on CCAFS) on Commercial and NASA Delta II launch vehicles will be eliminated. Required testing that has historically been performed in DMCO will be transferred to the launch pad as part of the "DMCO On-Pad Initiative."
		Elimination of traditional DMCO Testing will not allow for capturing hardware failures off-pad, and thus introduce potential for on-pad schedule delays of more than one key milestone if hardware fails during pad testing.
0	V0047	Failure analysis of a Pacific Scientific PN 107800-201detonator (SN 4498) that failed service life extension testing uncovered a manufacturing process vulnerability in which detonators could be reworked and inadvertently returned to production without the correct load of explosive material.
		Failure to initiate FTS destruct ordnance chain on command.
Y	Pending	If the 3715C Payload Attach Fitting (PAF) is delivered too late to meet the fit check schedule milestone, the PAF fit check may be done out of the normal flow or not at all (in the case of a very late delivery).
		A late PAF fit check would likely result in using up schedule margin use or possibly adding days. If the PAF were delivered so late that a fit check could not be done any problems encountered at flight mate would greatly increase the risk of a schedule impact.



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WISE - Actions / Issues / Concerns

LAUNCH SERVICES PROGRAM

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	0	ULA/Boeing does not inspect for microscopic cracks before providing a s/c customer a test payload attach fitting (TPAF) or clampband. Propagation of micro cracks in the TPAF or clampband during shock or vibration testing could cause damage to the s/c. (12/3/07, JOH update) TA to perform the TPAF and associated Clampband inspection has been released. (3/11/08, JBM update) TPAF/Clampband was delivered to S/C 1/17/08. Life Test Criteria memo delivered, revision delivered 3/18/08.	Risk V0046	8/31/07	04/01/2008
Engineering	0	LS SMA has noted human error and processing issues that indicate that Boeing's quality management system corrective actions are not preventing re-occurrence. The re-occurrence of undetected human errors and process problems can lead to major damage or loss of flight hardware or GSE.	Risk V0052	8/31/07	
Engineering	0	DAWN experienced a significant delay very late in the hardware production process that delayed the launch readiness date. The same contributing causes exist for other NASA missions. Possible delay for other NASA missions.	Risk V0050	8/31/07	
Engineering	0	Traditional DMCO Testing (Bldg AO on CCAFS) on Commercial and NASA Delta II launch vehicles will be eliminated. Required testing that has historically been performed in DMCO will be transferred to the launch pad as part of the "DMCO On-Pad Initiative." Elimination of traditional DMCO testing will not allow for capturing hardware failures off-pad, and thus introduce potential for on-pad schedule delays of more than one key milestone if hardware fails during pad testing.	Risk P0018	8/31/07	

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Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	0	Failure analysis of a Pacific Scientific PN 107800-201 detonator (SN 4498) that failed service life extension testing uncovered a manufacturing process vulnerability in which detonators could be reworked and inadvertently returned to production without the correct load of explosive material. Failure to initiate FTS destruct ordnance chain on command. Mission specific pyro verif needed.	Risk V0047	8/30/07	
Engineering	0	Kick off MIWG Strength results for Flight Design Load Cycle (FDLC) reported low strength margin of safety. Clampband gapping margin of safety is low. Clampband pre-load required is high. This drives a higher than expected shock load. Analysis used 200 lbf sep springs instead of 100 lbf. Discussion of dynamic uncertainty factor (DUF) is in work.	WI	10/3/07	Apr 08

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WISE - Significant Events

LAUNCH SERVICES PROGRAM

Accomplished	
Quick turn around CLA on contract	Mar 06
S/C Questionnaire transmittal to ULA	10/31/2007
Early MIWG/GOWG	Nov 06
Confirmation Review	Oct 06
Authority To Proceed (ATP) w/27 mo integration cycle.	08/01/2007
S/C CDR	4/3/07
Hydrogen and Cryo GSE study	08/09/2007-12/12/2007
Mission CDR	06/20/2007
PRCB for ATP Concurrence	07/27/2007
Kickoff MIWG	10/3/07
Mission Turn On ERB	7/31/07-7/31/07
Vent Stack TIM at VAFB	12/12/2007
MIWG @ KSC	2/20/08-2/20/08

Planned	
Kickoff GOWG @ VAFB	TBD
Hydrogen Cryostat Vent Stack CDR	Mid-May 08

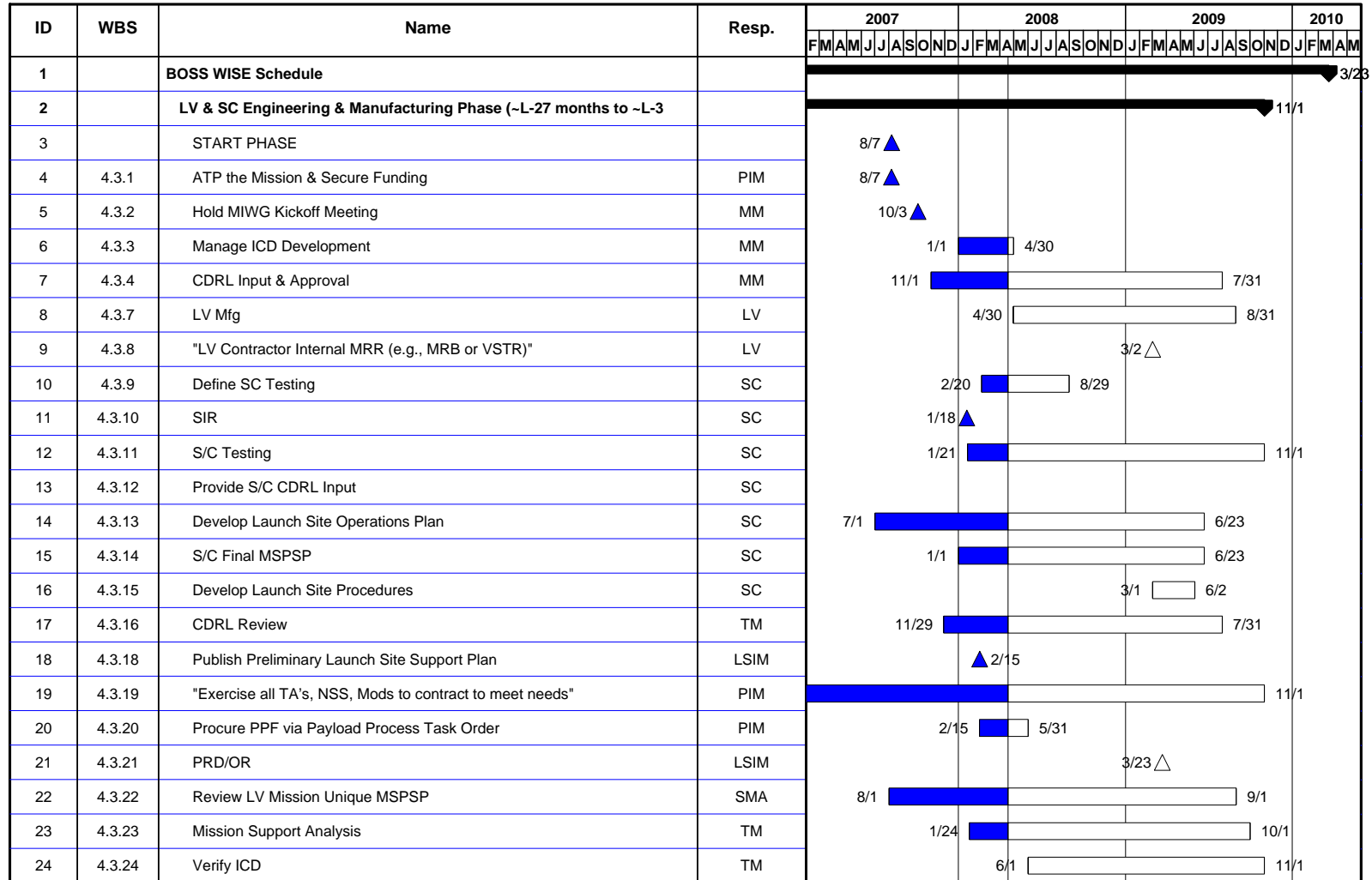
Sensitive But Unclassified

BOSS WISE Schedule

LSP-F-330.02 Basic

Page 1 of 2

4/17/08



TM = Technical Management

HQ = NASA HQ & Mission Directorate

LD = Launch Director

LSP = LSP Mgmt

LSIM = Launch Site Integration Manager

LSTO = LSTO (Mini Source Board)

LV = Launch Vehicle Contractor

MM = Mission Manager

PIM = Program Integration Manager

SC = Spacecraft Project

SMA = Safety & Mission Assurance

BOSS WISE Schedule

LSP-F-330.02 Basic

Page 2 of 2

4/17/08

ID	WBS	Name	Resp.	2007												2008												2009												2010																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
				F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
25	4.3.25	HAR/MSR equivalent	LV																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

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MM = Mission Manager

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John F. Kennedy Space Center

WISE Mission Management

Armando Piloto

LAUNCH SERVICES PROGRAM

Mission

Launch Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD

WISE
2009/11/01
725km sun sync 6 am or pm ascending node
Delta II
Any day of year
Commercial PPF
1387
SLC-2

Observatory Status

Observatory Status

Schedule

Budget

Deliverables

Testing

ATLO

Instrument

Feb Mar Apr

G	G	G
G	G	G
G	G	G
G	G	G
G	Y	Y
G	G	G
G	G	G

Mission Center:

Program:

PM

LVI

MM

IE

LSIM

PIM

MAM

MCE

MTE

JPL
Explorer
Bill Irace
Pete Darus
Armando Piloto
Jim Hoffman
Jeffrey Ehram
Randy Mizelle
Homero Hidalgo
Tuan Doan
José Amador, PhD



ICD

Feb Mar Apr

G	G	G
---	---	---

There are no signed SCNs

SCNS IN REVIEW

SCN # DATE SIGNED

ICD Pending

Launch Vehicle Status

Integrated Schedule

CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables

P-3/OTTR

G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

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WISE - Engineering

Jim Hoffman

LAUNCH SERVICES PROGRAM

	Feb	Mar	Apr
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	Y	Y	Y
Other	N/A	N/A	N/A
Mission Specific	G	G	G
Certification	G	G	G
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFICATION STATUS

NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)

Evaluating the pad impacts of servicing the S/C Hydrogen Cryostat

MISSION UNIQUE STUDIES (IF APPLICABLE)

Evaluating methods to reduce the high lateral loads CLA results

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John F. Kennedy Space Center

WISE - Mission ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
G	ERS-07-186	Mission Turn-on ERB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G	ERS-07-272 (TBS)	Mission ICD ERB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	08-51 (TBS)	WISE Hydrogen Vent Stack Design	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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WISE - Vehicle ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
G	06-284	2nd Stage Tank Leak (WISE Mission Specific ERB)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-40	Goodrich Analysis of Leach and Tyco Relay Failures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-308	delta II GG TLX Output Failure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-366	COSMO-2 1st Stage Engine Mixture Ratio Observation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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WISE - Launch Site

Jeffrey Ehram

LAUNCH SERVICES PROGRAM

LSSP

Feb Mar Apr

G	G	G
---	---	---

LSSP	Planned	Released
Preliminary	02/15/2008	02/01/2008
Baseline	05/01/2009	

CUSTOMER INPUTS

Feb Mar Apr

G	G	G
---	---	---

DELIVERABLES

Feb Mar Apr

Security and Badging
Training and Personnel Cert
Contingency Plans
Safety LSIM
Radiation Control
Operational Plans

G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

UNIQUE REQUIREMENTS

LAUNCH SITE UNIQUE

Two 500liter dewars of liquid helium to be replaced every day on Level 5 at SLC-2. Level 5 modifications required. Initial Study TA was functionally completed on 12 Dec 2007. Next step is a pathfinder TA. ULA Proposal received. JPL concerned about budget and placed proposal process on hold for de-scoping.

Design/Install hydrogen vent stack at PPF, SLC-2 MST and Boeing Can. Initial Study TA shows MSX vent design satisfactory. Next step is fabrication TA. ULA proposal acceptable. Expect ATP mid April 2008.

Feb Mar Apr

G	G	G
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G	G	G
---	---	---

G	G	G
---	---	---

PPF

G	G	G
---	---	---

Spacecraft OPS

G	G	G
---	---	---

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John F. Kennedy Space Center

WISE Budget Breakdown

Randy Mizelle

LAUNCH SERVICES PROGRAM

The launch service budget includes:

* **Launch Services**

- Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.

* **Mission Uniques**

- Requirements necessary to customize basic vehicle hardware to meet unique s/c driven requirements.
- Other services directly attributable to the mission.
- Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.

* **Integrated Services**

- LSP contractor support service (ELVIS, CAPPs, JBOSC, KICs, etc).
- USAF range costs attributable to the mission
- Limited flexibility

* **Payload Processing Facility**

- Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
- Commercial facility: all other missions have been directed to process in a commercial facility;
- Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.

* **Telemetry**

- Assets required to meet minimum launch vehicle telemetry requirements.
- Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
- Limited flexibility requirements are often set late in the integration cycle.

* **Fly Out**

- Costs that each mission in the 19-Pack must incur.
- Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
- Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
- Pad Sustainability costs for SLC-2 and SLC-17.
- No flexibility-contract costs

* **Nuclear**

- RTG/RHU processing
- RTG/RHU databooks and approval
- Limited flexibility

* **Reimbursable**

- Reimbursable FC for transportation, labor, and CMO.

* **Mission Flexibility**

- Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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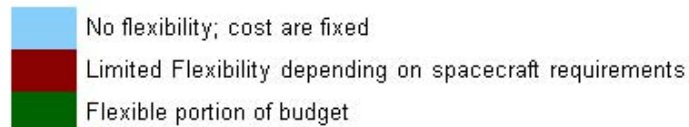
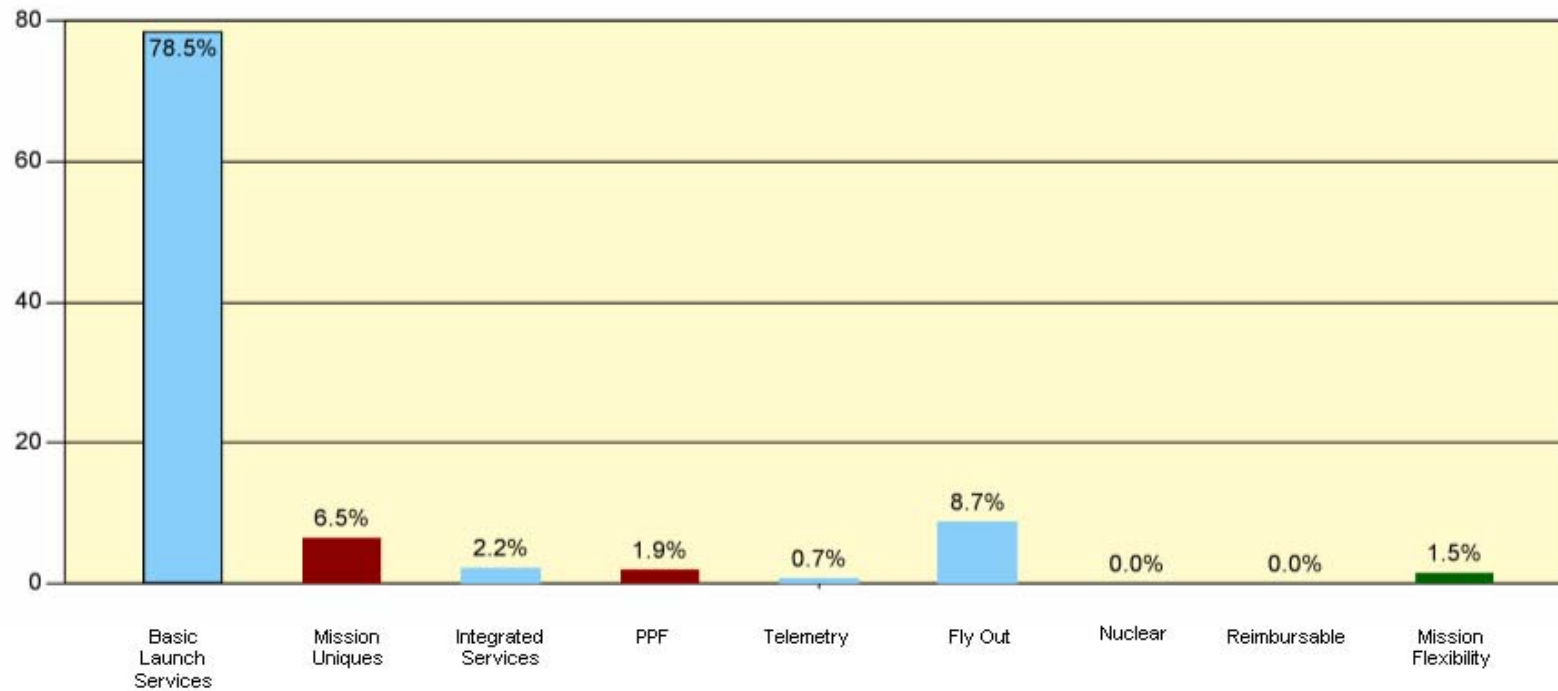
Launch Services Budget Breakdown

WISE Mission

Randy Mizelle

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 4 / 2008



Notes:

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John F. Kennedy Space Center

WISE - Business

Randy Mizelle

LAUNCH SERVICES PROGRAM

Budget

Contracts

Feb	Mar	Apr
G	G	G
G	G	Y

Milestone	Date
Milestone 1	09/26/2007
Milestone 2	12/18/2007
Milestone 3	02/01/2008
Milestone 4	05/01/2008
Milestone 5	08/01/2008
Milestone 6	11/01/2008
Milestone 7	02/01/2009
Milestone 8	05/01/2009
Milestone 9	08/01/2009
Milestone 10	11/01/2009

<input type="checkbox"/>	Open Milestone Payment
<input type="checkbox"/>	Paid Milestone

Contract Status

Launch Services		
Contract Mod	Number	Description
	NLSB-60	12/11/02 FPB directed change in MIDEX-6 (CLIN 25) Vehicle config. From 2420-10 to 2425-10
	NLSB-191	8/26/05 FPB directed the renaming of CLIN 25 from MIDEX-6 to "WISE"; establishment of the launch site as VAFB; and change of vehicle config. From 2425-10 to 2320-10
	NLSB-214	NSS 20.3.3 Early CLA
	NLSB-236	12/6/2005 FPB directed change to WISE Launch Date from 3/31/08 to 6/14/09
	NLSB-242	NSS 20.2 Early MIWG
	NLS-B 257	NSS 20.3.4 Final Design Load Cycle
	NLSB-265	Adjust launch date from June 14, 2009 to November 1, 2009.
	295	ATP Mission
	295	NSS 30.2 Long Lead Material Liquidation Credit

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Contract Mod	Number	Description		
	295	NSS 2.2.3 Additonal 24 -inch diameter door		
	295	NSS 3.1.3 3715C Payload Adapter		
	295	NSS 35.2 Additional 40 Mission Console Notebooks		
	295	NSS 20.1 Pedigree Review		
	295	NSS 27.1 Western Range (WR) Launch Incremental		
	125	NSS 30.1 Long-lead Mat'l/Adv NSS 33.1 Post Prod Support		
	240	NSS 32.1 VAFB Launch Site O&M and NSS 33.1 Post Production		
There are no LD Contract Mods				
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-299R1	Fabrication and testing of Hydrogen Vent Stack on the SLC-2 Mobil Service Tower and Transportation Canister	11/10/2007	02/26/2008
	NLSB-304	37-Pin electrical connectors	10/04/2007	02/26/2008
	NLSB-307	Test PAF Inspection	01/20/2008	02/26/2008
There are no PPF Contract Mods				
There are no Other Contract Mods				
	Issues			
G	Launch Service Contractor Milestone # 2 has not yet been received; status of invoice has been requested.			
G	Mission has 120 days of grace remaining and the next notification point for a potential launch delay is 10/31/2008 for either Government or Contractor (L-12 mo + 1 Day).			
Y	PAF subcontractor submitted no-bid for this contract; coordinating alternative options with launch services contractor.			

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Center

WISE - Safety and Mission Assurance

Homero Hidalgo

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status		Evidence of Completion	Feb	Mar	Apr
	Complete	In Work				
Quality				Y	Y	Y
Software / Hardware Problems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Currently re-evaluating the ULA-Boeing's Quality Management System risk.	Y	Y	Y
Alerts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA is tracking no GIDEP issues at this time.	G	G	G
Audits/Inspections/Surveillances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA Quality is continuing to selectively perform surveillances and audits	G	G	G
Limited Life Items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SMA is tracking no LLI issues at this time	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	<input type="checkbox"/>	<input checked="" type="checkbox"/>		G	0	G
Reliability Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>		G	0	G
Safety				G	G	G
Requirements Definitions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
Range Safety & Mission Flight Rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
Licenses/Use Authorizations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
Safety Documentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
Non-compliances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
Contingency Planning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
Mission Assurance				Y	Y	Y
Lessons Learned	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
First Flight/Mission Unique items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cryo Vent Stack effort in progress; no current issues	G	G	G
Test/Qualification/Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G
Mission Assurance Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Alenia 2nd-Stage Oxidizer Leak, inspection process ID; ULA transition	Y	Y	Y
Risk Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Issues at this time	G	G	G

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John F. Kennedy Space Center

WISE Comm & Telemetry

Tuan Doan and José Amador, PhD

LAUNCH SERVICES PROGRAM

Communications

Voice Comm
Data Comm
Networks
Video Comm
Timing
RF Comm
LSSP Comm Annex

Feb	Mar	Apr
G	G	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Telemetry

Decommuration Tables
Data Integrity Test
Software Lockdown
Software Inventory
Console Configuration
Console Checkout

Feb	Mar	Apr
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

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Aquarius Project Summary

LAUNCH SERVICES PROGRAM

Mission	Aquarius
Launch Date	2010/05/23
Launch Vehicle	Delta II
Launch Period Window	
PPF	Commercial PPF

OVERALL MISSION

Feb	Mar	Apr
G	G	G

MISSION MANAGEMENT

Observatory Status
Manifest/Range
Integrated Schedule
ICD
CDRLs (S/C & LSC)

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
0	0	0
G	G	G

LAUNCH SITE

LSSP
Customer Inputs
PPF
Launch Site Unique
Spacecraft OPS

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

SAFETY & MISSION ASSURANCE

Mission Assurance
Safety
Quality
Reliability

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G

ENGINEERING

Launch Vehicle
Mission Specific
Certification
Mission Analysis
ERS/ERB
Launch PAD/GSE
Mission Unique IV&V

0	G	G
0	G	G
0	N/A	0
0	G	G
0	G	G
0	G	G
0	N/A	0

COMM & TELEMETRY

Communications
Telemetry

0	0	0
0	0	0

BUSINESS

Budget
Contracts

Y	Y	Y
G	G	G

DOWNRANGE TELEMETRY

Ground Stations
Deployables
P-3/OTTR

0	0	0
0	0	0
0	0	0

LEGEND

Proceeding on Plan
Area of Concern
Significant Problem
Not Evaluated
Not Applicable

G
Y
R
0
N/A

Sensitive But Unclassified

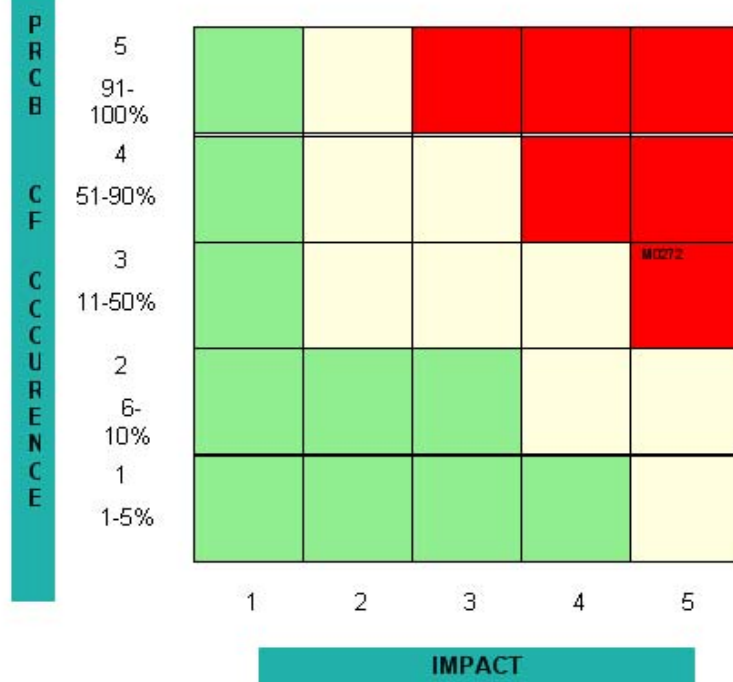


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Aquarius - Open/Accepted Risks

LAUNCH SERVICES PROGRAM

		Condition
RYG	RiskID	Consequence
Trend		
0	M0272	The proposed launch date for Aquarius is May, 2010. There are no CY2010 contract prices for SLC-2 Delta II O&M or post-production support on the NLS contract.
		Without CY2010 prices in place, there will be a break in O&M support at the pad. Also, there is currently not a quantified cost for the launch pad support that will be paid for by the Aquarius mission.



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Aquarius - Actions / Issues / Concerns

LAUNCH SERVICES PROGRAM

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/Problem	Open Date	Due Date
Mission Management	0	Mission LRD moved to July 09, still further risk of moving with possible LRD in 2010. Mission LRD planing date now 22 May 2010, FPB action to confirm date by Oct 5, 2007. PMC planned for 30 October at HQ	WI	01/10/2007	11/02/2007
Business	0	Possible increased LV and O&M costs due to proposed LRD in 2010,	WI	09/19/2007	11/30/2007

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Aquarius - Significant Events

LAUNCH SERVICES PROGRAM

Accomplished	
Instrument PDR	06/28/2005-06/30/2005
Spacecraft PDR	08/03/2005-08/04/2005
Mission Confirmation Review held	09/28/2005
Program Intro / Range Concept Briefing at VAFB	12/16/2005
Quick turnaround CLA	
Instrument CDR at JPL	09/18/2006-09/22/2006
TFA data delivery	9/11/2006
Deliver Final SSPP and Initial MSPSP to the Range	09/15/2006
JPL to perform RF monitoring at SSI and Astrotech	08/30/2006-08/31/2006
Kick-Off Meeting with ULA	March 2008-03/28/2008
IRD	07/13/2007-10/12/2007
Ground Ops/Launch vehicle TIM	October 2007
Full CLA planned prior to ATP	09/03/2007-12/10/2007
DPMC on schedule re-plan on 16 November	11/16/2007-11/30/2007

Planned	
SC Mission CDR	July 2008
ATP for mission	11/30/2007-11/30/2007
TPAF installation for EM in Brazil	05/29/2008
EM shock test	06/26/2008

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BOSS AQUARIUS Schedule

LSP-F-330.02 Basic

Page 1 of 4

4/16/08

ID	WBS	Name	Resp.	2007		2008				2009				2010				Q1
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1		BOSS Aquarius Schedule								3/5								10/12
2		Baseline & Procure Launch Services Phase (~L-2 to 3 years)								3/5				12/10				
3		START PHASE								3/5								
4	3.3.1	Assign LSTO Team	LSP							3/6		4/2						
5	3.3.2	Prepare Final SC IRD	MM							4/3		4/30						
6	3.3.3	Review Requirements & IRD	LSTO							5/1		5/28						
7	3.3.4	Submit IRD	SC							5/28								
8	3.3.5	Prepare/Review SC IRD & Hold IRD-ERB	TM							5/29		6/25						
9	3.3.6	Define LV Acquisition Strategy	LSTO							6/26		7/23						
10	3.3.7	Hold Kick-off GOWG	LSIM							3/5								
11	3.3.8	LSP PRCB for LV Acquisition Strategy	LSTO							7/24		8/20						
12	3.3.9	Prepare Sole Source Justification	LSTO							8/21		9/17						
13	3.3.10	LV Selection	HQ							9/18		10/15						
14	3.3.11	Hold Competition (Review IRD) (LSTO)	LSTO							7/24		8/20						
15	3.3.12	LSP PRCB for LV Selection	LSTO							8/21		9/17						
16	3.3.13	Present Findings to Flight Planning Board	LSTO							9/18		10/15						
17	3.3.14	Develop LSSP	LSIM							3/6		4/2						
18	3.3.15	"Prepare Cost Estimate, Customized Payment Schedule (if required) and	PIM							3/6								
19	3.3.16	Generate Configuration Action Request (CAR)	PIM							3/9		4/3						
20	3.3.17	Safety Requirements Tailoring	SC							5/29		6/25						
21	3.3.18	Preliminary SC MSPSP	SC							6/26		7/23						
22	3.3.19	LV Orbital Debris Assessment (ODA) (LV & SC)	TM							6/26		7/23						
23	3.3.20	SC CDR	SC							7/23								
24	3.3.21	Prepare Mission Approval Plan	MM							5/1		5/28						
25	3.3.22	LSP Confirm Manifest Launch Date	LSP									11/13		12/10				
26	3.3.23	LSP PRCB for ATP	MM							5/29		6/25						
27	3.3.24	Hold FPB ATP	MM							6/26		7/23						
28	3.3.25	Confirm Manifest Launch Date	HQ									10/16		11/12				
29	3.3.26	Place Mission on Contract	PIM							7/24		8/20						
30	3.3.27	Review SC Preliminary MSPSP	SMA							7/24		8/20						
31	3.3.28	Review Press Release	LSTO									10/16		11/12				
32	3.3.29	Phase Close-Out	MM							8/20								
33		LV & SC Engineering & Manufacturing Phase (~L-27 months to ~L-3								8/20				4/29				
34		START PHASE								8/20								
35	4.3.1	ATP the Mission & Secure Funding	PIM							8/21		9/17						

TM = Technical Management

LSIM = Launch Site Integration Manager

PIM = Program Integration Manager

HQ = NASA HQ & Mission Directorate

LSTO = LSTO (Mini Source Board)

SC = Spacecraft Project

LD = Launch Director

LV = Launch Vehicle Contractor

SMA = Safety & Mission Assurance

LSP = LSP Mgmt

MM = Mission Manager



John F. Kennedy Space Center

Aquarius Mission Management

Dave Breedlove

LAUNCH SERVICES PROGRAM

Mission

Launch Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD

Aquarius
2010/05/23
Sun Sync
Delta II
Commercial PPF
1675
SLC-2

AQUARIUS

ICD

There are no signed SCNs

Feb Mar Apr

0	0	0
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There are no SCNs in Review

Observatory Status

Observatory Status

Schedule

Budget

Deliverables

Testing

ATLO

Instrument

Feb Mar Apr

G	G	G
G	G	G
Y	Y	Y
G	G	G
G	G	G
G	G	G
G	G	G

Launch Vehicle Status

Integrated Schedule

CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables

P-3/OTTR

G	G	G
G	G	G
G	G	G
0	0	0
0	0	0
0	0	0

Mission Center:

Program:

PM

LVI

MM

IE

LSIM

PIM

MAM

MCE

MTE

JPL

ESSP

Amit Senn

Mike Davis

Dave Breedlove

Norman Beck, Jr.

Mark Mertz

Shaqueena Lewis

Michael Johnson

Robert McEntire

Nathan Wood

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John F. Kennedy Space Center

Aquarius - Engineering

Norman Beck, Jr.

LAUNCH SERVICES PROGRAM

Launch Vehicle

Payload Fairing

First Stage

Second Stage

Third Stage

Payload Attach Fitting

Other

Mission Specific

Certification

Mission Analysis

ERS/ERB

Launch PAD/GSE

Mission Unique IV&V

Feb	Mar	Apr
0	G	G
0	G	G
0	G	G
0	G	G
0	N/A	0
0	G	G
0	G	G
0	G	G
0	N/A	0
0	G	G
0	G	G
0	G	G
0	N/A	0

REQUIREMENT VERIFICATION STATUS

NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)

Launch PAD sustainment support into 2010

MISSION UNIQUE STUDIES (IF APPLICABLE)

There are none.

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Aquarius - Mission ERB Status

Norman Beck, Jr.

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
0	08-55	Aquarius ICD Approval	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Aquarius - Vehicle ERB Status

Norman Beck, Jr.

LAUNCH SERVICES PROGRAM

There are no Vehicle ERBs for this mission.

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Aquarius - Launch Site

Mark Mertz

LAUNCH SERVICES PROGRAM

	Feb	Mar	Apr
LSSP	G	G	G

LSSP	Planned	Released
Preliminary	11/2008	
Baseline	9/2009	

	Feb	Mar	Apr
CUSTOMER INPUTS	G	G	G

DELIVERABLES	Feb	Mar	Apr
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Feb	Mar	Apr
LAUNCH SITE UNIQUE	G	G	G
Propellant Services	G	G	G
PPF	G	G	G
Spacecraft OPS	G	G	G

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Aquarius Budget Breakdown

Shaqueena Lewis

LAUNCH SERVICES PROGRAM

The launch service budget includes:

* **Mission Uniques**

- Requirements necessary to customize basic vehicle hardware to meet unique s/c driven requirements.
- Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.

* **Integrated Services**

- LSP contractor support service (ELVIS, CAPPS, JBOSC, KICs, etc).
- USAF range costs attributable to the mission

* **Payload Processing Facility**

- Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
- Commercial facility: all other missions have been directed to process in a commercial facility;
- Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.

* **Telemetry**

- Assets required to meet minimum launch vehicle telemetry requirements.
- Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
- Limited flexibility requirements are often set late in the integration cycle.

* **Fly Out**

- Costs that each mission in the 19-Pack must incur.
- Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
- Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
- Pad Sustainability costs for SLC-2 and SLC-17.
- No flexibility-contract costs

* **Nuclear**

- RTG/RHU processing
- RTG/RHU databooks and approval
- Limited flexibility

* **Reimbursable**

- Reimbursable FC for transportation, labor, and CMO.

* **Mission Flexibility**

- Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.

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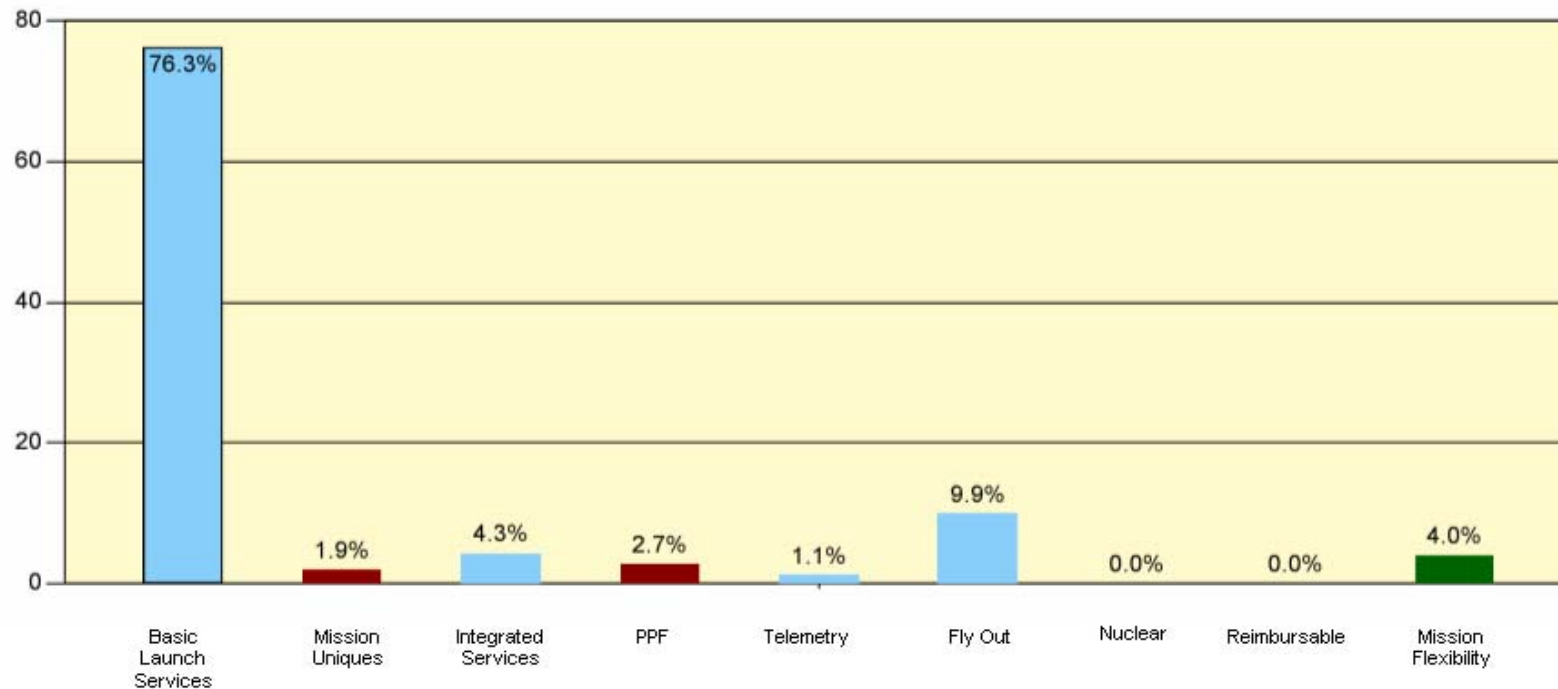
Launch Services Budget Breakdown

Aquarius Mission

Shaqueena Lewis

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 4 / 2008



- No flexibility; cost are fixed
- Limited Flexibility depending on spacecraft requirements
- Flexible portion of budget

Notes:

Budget does not contain post-production support or pad maintenance for 2010 launch date. These costs are currently being developed by LSP.
Project is currently in early stages; requirements still being developed.

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Aquarius - Business

Shaqueena Lewis

LAUNCH SERVICES PROGRAM

Budget

Contracts

Feb	Mar	Apr
Y	Y	Y
G	G	G

Milestone	Date
Milestone 1	11/23/2007
Milestone 2	02/23/2008
Milestone 3	05/23/2008
Milestone 4	08/23/2008
Milestone 5	11/23/2008
Milestone 6	02/23/2009
Milestone 7	05/23/2009
Milestone 8	08/23/2009
Milestone 9	11/23/2009
Milestone: 10	02/23/2010
Milestone: 11	05/23/2010

<input type="checkbox"/>	Open Milestone Payment
<input type="checkbox"/>	Paid Milestone

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Contract Status				
Launch Services				
Contract Mod	Number	Description		
	219	NSS 20.2.3 Early Trajectory Analysis		
	201	NSS 20.3.3 Quick Turnaround CLA		
	311	NSS 20.3.4 Final Design Load Cycle		
	313	Aquarius ATP		
	198	NSS 32.1 VAFB Launch Site Maintenance and NSS 33.1 Post Production Support		
	240	NSS 32.1 VAFB Launch Site O&M and NSS 33.1 Post Production Support		
Contract Mod (LD)	Number	Description		
	076	Delay from 9/07 to NET 3/1/08		
	136	Delay from 3/08 to 9/08		
	235	Delay from 9/30/08 to 3/23/09		
	264	Delay from 3/23/09 to 7/14/2009		
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB 178	Range Introduction meeting support	12/16/2005	01/06/2006
	NLSB 180	Accelerated Time Histories	03/10/2006	04/07/2006
	NLSB 197	Pre-ATP Support (export docs, travel)	12/03/2007	
	NLSB 208	Pre-ATP Shipping	01/31/2008	02/29/2008
	NLSB 314	Engineering Model Test Support	07/31/2008	
There are no PPF Contract Mods				
Contract Mod (Other)	Number	Description		
	NLSB 125	NSS 30.1 FY05 Flyout Costs		
	Issues			
Y	First Delta II launch in 2010. Launch Pad maintenance cost and Post-production support costs are currently not fully known			
G	Aquarius mission has 150 days of grace remaining and the next notification point for a potential launch delay is 05/22/2008 for either Government or Contractor (L-24 mo + 1 Day).			

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Center

Aquarius - Safety and Mission Assurance

Michael Johnson

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status		Evidence of Completion			
	Complete	In Work		Feb	Mar	Apr
Quality				G	G	G
Software / Hardware Problems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Alerts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Audits/Inspections/Surveillances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Limited Life Items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Reliability				G	G	G
FMEA/Fishbones/Equivalent	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Reliability Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Safety				G	G	G
Requirements Definitions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Range Safety & Mission Flight Rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Licenses/Use Authorizations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Safety Documentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Non-compliances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Contingency Planning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Mission Assurance				G	G	G
Lessons Learned	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
First Flight/Mission Unique items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Test/Qualification/Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Mission Assurance Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G
Risk Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues at this time	G	G	G

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Aquarius Comm & Telemetry

Robert McEntire and Nathan Wood

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

Feb Mar Apr

0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Telemetry

Decommuration Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

Feb Mar Apr

0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

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OCO Project Summary

LAUNCH SERVICES PROGRAM

Mission	OCO
Launch Date	2008/12/15
Launch Vehicle	Taurus
Launch Period Window	TBD
PPF	ASO-VAFB

OVERALL MISSION

Feb	Mar	Apr
Y	Y	Y

MISSION MANAGEMENT

Observatory Status
Manifest/Range
Integrated Schedule
ICD
CDRLs (S/C & LSC)

Feb	Mar	Apr
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

LAUNCH SITE

LSSP
Customer Inputs
PPF
Launch Site Unique
Spacecraft OPS

Feb	Mar	Apr
G	G	0
G	G	0
G	G	0
G	G	0
G	G	0

SAFETY & MISSION ASSURANCE

Mission Assurance
Safety
Quality
Reliability

Feb	Mar	Apr
G	G	0
G	G	0
Y	Y	0
G	G	0

ENGINEERING

Launch Vehicle
Mission Specific
Certification
Mission Analysis
ERS/ERB
Launch PAD/GSE
Mission Unique IV&V

G	G	G
Y	G	G
Y	Y	Y
G	G	G
G	G	G
G	G	G
N/A	N/A	N/A

COMM & TELEMETRY

Communications
Telemetry

G	G	G
0	0	0

BUSINESS

Budget
Contracts

G	G	G
G	G	G

DOWNRANGE TELEMETRY

Ground Stations
Deployables
P-3/OTTR

0	0	0
0	0	0
0	0	0

LEGEND

Proceeding on Plan
Area of Concern
Significant Problem
Not Evaluated
Not Applicable

G
Y
R
0
N/A

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OCO - Open/Accepted Risks

LAUNCH SERVICES PROGRAM

		Condition
RYG Trend	RiskID	Consequence
G	M0264	The OCO and Glory payload fairing (PLF) production schedules are ahead of the Ballast Ring Mission Unique design reviews. The outcome of the ballast ring design process impacts the location of the PLF doors which are described in the Mechanical ICDs.
		If the Ballast Ring design changes as an outcome of the design review process the OCO and Glory PLF cutouts (as defined in the MICD change) may not be located in the correct position to support S/C access after PLF installation. Or, if the MICD is not approved by NASA, cost and schedule of PLF manufacturing may be impacted.
O	P0022	NASA Atlas and Taurus missions not spaced properly.
		definite shifts in NASA FPB manifest dates for missions affected.
G	M0275	The planned OCO Softride qualification testing levels envelope the expected flight vibration levels but not the higher S/C system vibration test levels.
		OCO spacecraft vibe may be delayed until OCO soffride can be qualified to the higher levels.
Y	M0281	If an OCO S/C N2H4 fuel tank leak were to occur, complete off-load of the fuel cannot be done while the S/C is horizontal or while stacked on the launch vehicle.
		Launch delay due to resulting defueling plan execution and subsequent leak repair.

P
R
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B

C
F

C
C
C
U
R
R
E
N
C
E

5
91-
100%
4
51-90%
3
11-50%
2
6-
10%
1
1-5%



1 2 3 4 5
IMPACT

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OCO - Actions / Issues / Concerns

LAUNCH SERVICES PROGRAM

There are no Actions.

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	S/C Elec Umb reqmts exceed Taurus umb capability at pad. LSG developing mod to umbilicals. 2/12/07 GM, received prelim design from Orbital, in eng assessment. 6/13/07 GM ERB scheduled Sep 07. 9/17/07 JBM Sep 07 ERB postponed. 2 of 4 cable drawing avail. Two more dwgs NET 6/08. Impacts KSC MUCDR prep & schedule.	ERS-06-328	05/03/2006	3/31/2008
Engineering	G	MICD ICP approval for fairing door location change needed by Aug. 6, 2007. This is before MUPDR and MUCDR. Engineering decided not to approve the ICP at this time due to technical risk of proceeding with fairing manufacturing prior to completing ballast ring design. Risk sheet M0264. 8/29/07: MICD ICP#3 was signed by KSC for OCO on 8/14/07. MUPDR for Ballast Ring completed 8/28/07. 2/14/08 JBM: MUCDR completed 1/31/08, good. PLF doors are where they need to be, risk did not materialize.	RISK M0264	8/13/07	04/04/2008
Engineering	G	Manufacturing process vulnerability in which Pacific Scientific detonators that have been reworked may have been inadvertently returned to production without the correct load of explosive material. Risk accepted for AIM. OCO mission assessments of this risk item is ongoing as WI. Fleet risk V0048 closed 3/23/07. Final OCO resolution requires flight specific parts list.	WI	3/23/07	9/15/08
Engineering	G	The currently planned OCO Softride isolator qualification testing envelopes the predicted OCO flight levels, but does not envelope the proposed JPL S/C system vibration test levels. The OCO S/C system vibration test may be delayed until the Softride isolator can be shown qualified to the higher JPL S/C test levels. (OCO S/C system vibration test planned for April 08).	RISK M0275	1/11/08	4/1/08
Engineering	Y	Certification of Taurus XL launch vehicle is proceeding in parallel with OCO mission development.	WI	2/14/08	12/15/08

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Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	Ballast Ring MUCDR recommended a comprehensive mission peculiar review for all MU items as a group, not individually. Draft SOW nearly complete. Will add ERS when SOW proposal is approved. (4/11/08, J. Hoffman) SOW is out of Contracts and now awaiting LSG response.	WI	3/5/08	6/15/08
Engineering	G	Observatory vibe testing ending in June with little margin to update FEM for 25 July 08 need date to start VLC	WI	04/16/2008	

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OCO - Significant Events

LAUNCH SERVICES PROGRAM

Accomplished	
PCLA	1/23/07
Bus CDR	02/15/2006-02/16/2006
MICD released	01/11/2007
Mission CDR	08/21/2006-08/24/2006
EICD released	01/23/2007
TFA	01/25/2007
Mission ICD released	04/12/2007
T8/T9 Ballast Ring MUCDR	1/31/08
PMA	9/20/07
GOWG at VAFB	02/05/2008-02/07/2008
Softride Isolator CDR	12/11/2007
Softride Isolator CDR/ERB Reconvene	3/14/2008-03/14/2008
OCO PPF awarded	01/07/2008
ITA	8/9/07
Sep Analysis	8/7/07
Mission ICD Update, Rev A	4/4/08

Planned	
T8/T9 MUSAR	8/28/08
CLA	9/3/08
FMA	9/3/08
RF Link Analysis	10/14/08
Flight Controls Analysis	10/14/08
Comprehensive Mission Unique Review. Draft SOW in work.	TBD-TBD
Cyrostat Vent Stack CDR/ERB	TBS

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BOSS OCO Schedule

LSP-F-330.02 Basic

Page 1 of 1

4/16/08

ID	WBS	Name	Resp.	2007	2008											2009			
				Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1		BOSS OCO Schedule														10/24			
2		LV & SC Engineering & Manufacturing Phase (~L-27 months to ~L-3 months)														10/24			
3	4.3.7	LV Mfg	LV											8/20					
4	4.3.27	LV Components arrives at Launch Site	LV					5/16				7/3							
5	4.3.28	Publish Baseline LSSP	LSIM								7/4								
6	4.3.29	GOWG	LSIM					5/7					9/15		LOWG				
7	4.3.30	Prepare PPF & services for GSE/SC arrival	LSIM													10/14			
8	4.3.31	Comm & Telemetry Reviews	LSIM																
9	4.3.32	Review S/C Final MSPSP	SMA							6/16		7/15							
10	4.3.33	GOR	LSIM											10/23					
11	4.3.34	Process Launch Delays as needed	PIM																
12	4.3.35	Track Milestone Payments	PIM																
13	4.3.36	Procure Deployable & Fixed Telemetry Assets	PIM																
14	4.3.37	Begin Access Badging & Training	LSIM									9/1		9/26					
15	4.3.38	"LV & MU Eng Review Process (ERBs,ERSs,Req Rev, Des Rev, Qual)"	TM																
16	4.3.39	Payload-LV Fitchek	TM																
17	4.3.40	MIWG	MM										10/18						
18	4.3.41	Safety TIMS PSWG	SMA										10/18						
19	4.3.42	S/C PreShip Review	SC										10/10						
20	4.3.43	S/C Ships	SC										10/15		10/24				
21	4.3.44	Phase Close-Out	MM										10/24						

TM = Technical Management

LSIM = Launch Site Integration Manager

PIM = Program Integration Manager

HQ = NASA HQ & Mission Directorate

LSTO = LSTO (Mini Source Board)

SC = Spacecraft Project

LD = Launch Director

LV = Launch Vehicle Contractor

SMA = Safety & Mission Assurance

LSP = LSP Mgmt

MM = Mission Manager



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OCO Mission Management

Dave Breedlove

LAUNCH SERVICES PROGRAM

Mission

Launch Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD

OCO
2008/12/15
705 km / 98.2 deg incl
Taurus
TBD
ASO-VAFB
444 kg (TB
567E



ICD

Feb Mar Apr

G	G	G
---	---	---

Observatory Status

Observatory Status

Schedule

Budget

Deliverables

Testing

ATLO

Instrument

Feb Mar Apr

G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Launch Vehicle Status

Integrated Schedule

CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables

P-3/OTTR

G	G	G
G	G	G
G	G	G
0	0	0
0	0	0
0	0	0

Mission Center:

Program:

PM

LVI

MM

IE

LSIM

PIM

MAM

MCE

MTE

JPL

ESSP

Tom Livermore

Mike Davis

Dave Breedlove

Jim Hoffman

Julie Schneringer

Ken Carr

Laura McDaniel

Ralph Mikulas

Nathan Wood

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SIGNED SCNS:		There are no SCNs in Review
SCN #	DATE SIGNED	
ICP-01, EICD	02/13/2007	
ICP-02, EICD	02/13/2007	
ICP-003, MICD	08/14/2007	
ICP-001, MICD	9/10/07	
ICP-002, MICD	8/28/07	
ICP-03, EICD	1/29/08	
ICP-4, MICD	1/29/08	

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OCO - Engineering

Jim Hoffman

LAUNCH SERVICES PROGRAM

	Feb	Mar	Apr
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	G	G	G
Payload Attach Fitting	G	G	G
Other	G	G	G
Mission Specific	Y	G	G
Certification	Y	Y	Y
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFICATION STATUS	
NUMBER OF REQUIREMENTS	177
VERIFIED TO DATE	0

LAUNCH PAD / GSE MODS (IF APPLICABLE)
Umbilical Harness Mod
GSE Payload Fairing Doors

MISSION UNIQUE STUDIES (IF APPLICABLE)
There are none.

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OCO - Mission ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
G	06-314	OCO ICD Review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	06-328	OCO Umbilical Harness Modification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-189	Taurus T8/T9 MUPDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-190	Taurus T8/T9 MUCDR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-191	Taurus T8/T9 MUSAR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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OCO - Vehicle ERB Status

Jim Hoffman

LAUNCH SERVICES PROGRAM

R/Y/G	ERS #	TITLE	ERB Req?		Board Held?			Closure		
			Y	N	Y	N	N/A	AI	ENG.	OCE
G	07-113	Safe & Arm (New Build) Process Review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-325	Taurus XL Core Fleet: Coupled Loads IV&V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	07-328	Taurus XL Core Fleet : 7Ah Avionics Battery, Taurus First Flight, OCO/Glory	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	08-14	Taurus XL Core Fleet: Taurus XL Upper stage Thermodynamics IV&V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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OCO - Launch Site

Julie Schneringer

LAUNCH SERVICES PROGRAM

LSSP

Feb Mar Apr

G	G	0
---	---	---

LSSP	Planned	Released
Preliminary	07/2007	08/27/2007
Baseline	05/15/2008	

CUSTOMER INPUTS

Feb Mar Apr

G	G	0
---	---	---

DELIVERABLES

Feb Mar Apr

Security and Badging	G	G	0
Training and Personnel Cert	G	G	0
Contingency Plans	G	G	0
Safety LSIM	G	G	0
Radiation Control	G	G	0
Operational Plans	G	G	0

UNIQUE REQUIREMENTS

LAUNCH SITE UNIQUE

Feb Mar Apr

G	G	0
G	G	0

PPF

Commercial PPF

G	G	0
G	G	0

Spacecraft OPS

Fueling

G	G	0
G	G	0

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OCO Budget Breakdown

Ken Carr

LAUNCH SERVICES PROGRAM

The launch service budget includes:

* **Launch Services**

- Standard launch Vehicle Services provided by this contract. This line item is firm fixed price and has no flexibility.

-

-

* **Mission Uniques**

- Requirements necessary to customize basic vehicle hardware to meet unique s/c driven requirements.
- Other services directly attributable to the mission.
- Contains some flexibility except when technical risk is affected. Spacecraft requirements are the cost driver.

* **Integrated Services**

- LSP contractor support service (ELVIS, CAPPs, JBOSC, KICs, etc).
- USAF range costs attributable to the mission
- Limited flexibility

* **Payload Processing Facility**

- Government facility: spacecraft customers are required to be processed in a government facility if the mission is planetary or has nuclear requirements
- Commercial facility: all other missions have been directed to process in a commercial facility;
- Contains some budget flexibility. Additional spacecraft cleanliness requirements or hazardous requirements may increase PPF costs.

* **Telemetry**

- Assets required to meet minimum launch vehicle telemetry requirements.
- Includes fixed and deployable ground stations, instrumented aircraft, and ocean assets.
- Limited flexibility requirements are often set late in the integration cycle.

* **Fly Out**

- Costs that each mission in the 19-Pack must incur.
- Long lead material procurement to mitigate risks due to gaps in production and supplier orders.
- Post-production support for labor skill retention, procure, manufacture, store and maintain under configuration control, mission critical spare parts.
- Pad Sustainability costs for SLC-2 and SLC-17.
- No flexibility-contract costs

* **Nuclear**

- RTG/RHU processing
- RTG/RHU databooks and approval
- Limited flexibility

* **Reimbursable**

- Reimbursable FC for transportation, labor, and CMO.

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^a **Mission Flexibility**

- Portion of the mission budget available for funding additional task assignments, non-standard services or meeting unexpected requirements.



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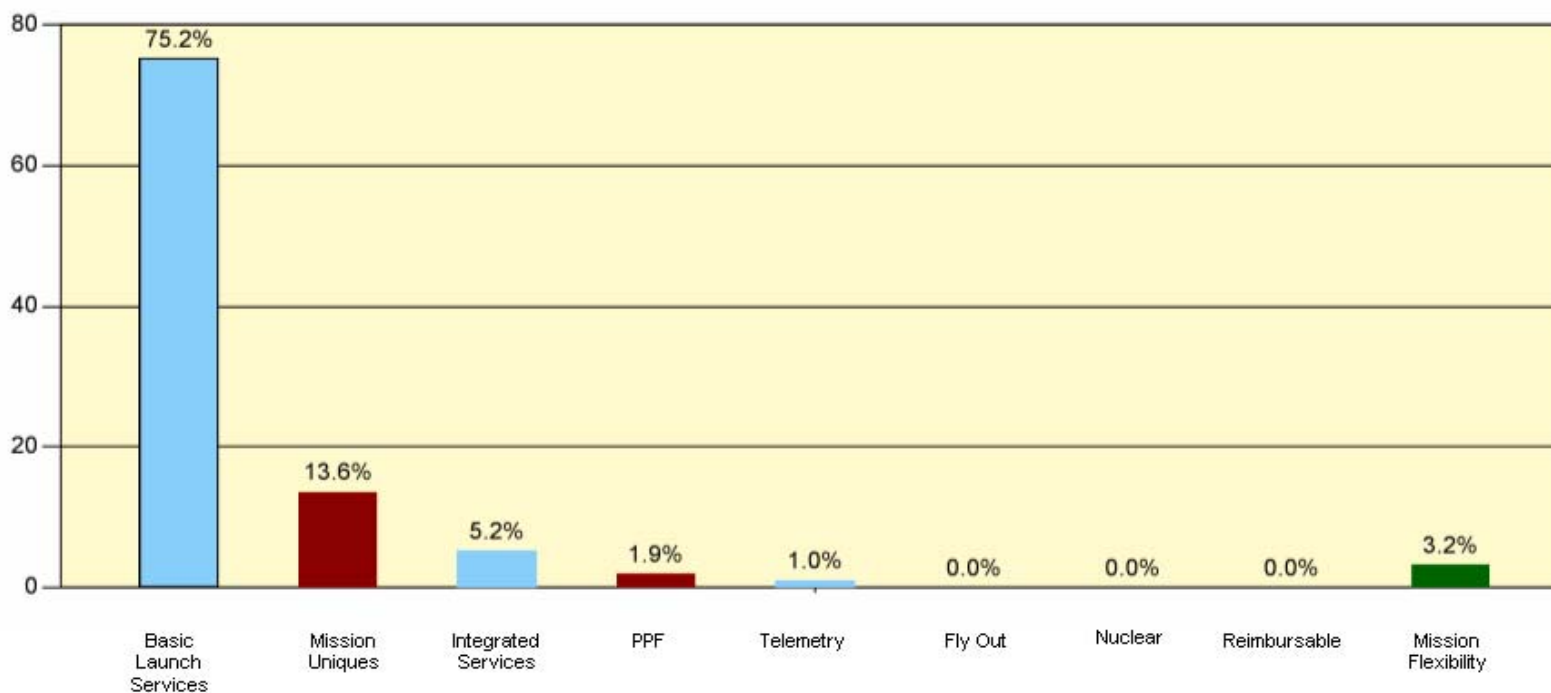
Launch Services Budget Breakdown

OCO Mission

Ken Carr

LAUNCH SERVICES PROGRAM

% of Total Launch Service Cost - 4 / 2008



- No flexibility; cost are fixed
- Limited Flexibility depending on spacecraft requirements
- Flexible portion of budget

Notes:

Variance: Updated total budget to new budget supporting 12/15/08 launch date and added latest contract mods and liens. Launch Delay settlement lower than originally estimated. No changes in NOA since last budget submit.

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OCO - Business

Ken Carr

LAUNCH SERVICES PROGRAM

Budget

Contracts

Feb	Mar	Apr
G	G	G
G	G	G

Milestone	Date
Milestone 1A	11/15/2003
Milestone 1B	11/15/2004
Milestone 1C	11/15/2004
Milestone 1D	8/1/2005
Milestone 2A	10/15/2005
Milestone 2B	11/15/2005
Milestone 2C	02/15/2006
Milestone 2D	02/15/2006
Milestone 2E	10/15/2006
Milestone 3A	11/15/2006
Milestone 3B	11/15/2006
Milestone 4	04/15/2007
Milestone 5	08/15/2007
Milestone 6	06/15/2008
Milestone 7	09/15/2008
Milestone 8	11/15/2008
Milestone 9	02/15/2009

<input type="checkbox"/>	Open Milestone Payment
<input type="checkbox"/>	Paid Milestone

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Contract Status				
Launch Services				
Contract Mod	Number	Description		
	Mod 10	Launch delay from 08/13/2007 - 09/15/2008 and Softride addition		
	Mod 17	Test Payload Adapter Fitting support		
	Mod 24	Addition of non-standard services: Umbilical harness,Test Isolators & Instrument Purge		
	Mod 31	Ballast Ring for launch vehicle		
	Mod 34	Isolator Delta Qual Testing		
	Mod 36	Launch Delay from 9/15/08 to 12/15/08		
There are no LD Contract Mods				
Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	SP-24.001	Soft-Ride coupled loads analysis using XL environment		
	SP-24.002	Upper stage motor production hold (non-mission funds)		
	SP-24.003	RF/EMI compatibility study		
	SP-24.004	Payload CDR Support		
	SP-24.005	Umbilical connector test support		
	SP-24.006	Trajectory Feasibility Study		
There are no PPF Contract Mods				
There are no Other Contract Mods				
There are no Issues.				

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OCO - Safety and Mission Assurance

Laura McDaniel

LAUNCH SERVICES PROGRAM

Assurance Verification Areas	Status		Evidence of Completion	Feb	Mar	Apr
	Complete	In Work				
Quality				Y	Y	0
Software / Hardware Problems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Taurus vehicle is under certification efforts by LS SMA and NASA LSP. Due to outstanding Data Requests for Taurus vendors from previous site visits, all hardware and software fabrication operations are not fully certified.	Y	Y	0
Alerts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	0
Audits/Inspections/Surveillances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues or concerns	G	G	0
Limited Life Items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	0
Reliability				G	G	0
FMEA/Fishbones/Equivalent	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Failure analyses assessments have been initiated along with vehicle certification planning	G	G	0
Reliability Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Reliability assessment for certification is in progress. Design Reliability Report (DRR) from Orbital was received 11/16/07. The revised DRR (based on TIM comments) is expected before 4/18/08.	G	G	0
Safety				G	G	0
Requirements Definitions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EWR 127-1 Requirements Checklist - Completed. Out for Review.	G	G	0
Range Safety & Mission Flight Rules	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In Work (Range Safety)	G	G	0
Licenses/Use Authorizations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In work	G	G	0
Safety Documentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Comments submitted for preliminary MSPSP	G	G	0
Non-compliances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	S/C: Non-compliance to be written for spacecraft contingency offload	G	G	0
Contingency Planning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues identified to date	G	G	0
Mission Assurance				G	G	0
Lessons Learned	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No previous NASA Taurus missions - Other KSC LLs will be reviews/addressed	G	G	0
First Flight/Mission Unique items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Certification Effort in work	G	G	0
Test/Qualification/Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Certification Effort in work	G	G	0
Mission Assurance Assessments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No issues	G	G	0
Risk Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Risk Management System is working properly	G	G	0

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OCO Comm & Telemetry

Ralph Mikulas and Nathan Wood

LAUNCH SERVICES PROGRAM

Communications

Voice Comm
Data Comm
Networks
Video Comm
Timing
RF Comm
LSSP Comm Annex

Feb	Mar	Apr
G	G	G
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Telemetry

Decommuration Tables
Data Integrity Test
Software Lockdown
Software Inventory
Console Configuration
Console Checkout

Feb	Mar	Apr
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

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